

SOAP

SANITARY CHEMICALS

MERIT IS EARNED

For over 145 years the name D & O has been a symbol of merit earned by praiseworthy performance and achievement in the field of aromatics and essential oils.

... We invite you to submit your perfuming problems to our competent compounding laboratories.

DODGE & OLCOTT
COMPANY

180 VARICK ST., NEW YORK, N. Y.



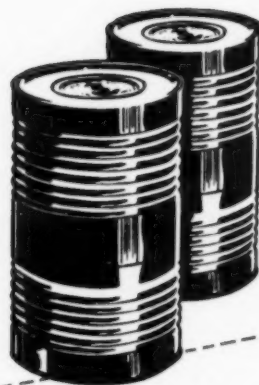
BOSTON • CHICAGO • PHILADELPHIA
ST. LOUIS • LOS ANGELES • Plant & Labs., BAYONNE, N. J.

October 1944

Specify

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

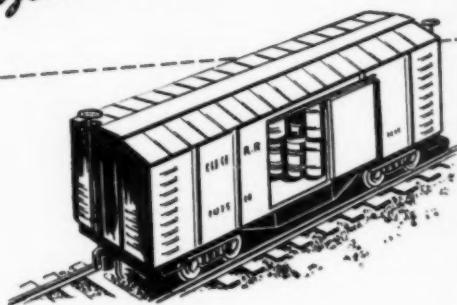


For the **HIGHEST** Commercial **QUALITY**
standardized at 90% KOH or better!



**CAUSTIC
POTASH**

**Solid
or
Flake**



Created especially for manufacturers of Potash Soaps and Potash Chemicals who want *unusually* high standards of quality. SOLVAY CAUSTIC POTASH, Solid or Flake, is standardized at 90% KOH or better.

Quality control of raw materials and rigid maintenance of high production standards enable SOLVAY to offer CAUSTIC POTASH that sets the standard for *Purity, Uniformity, and Dependability*. For finer quality Caustic Potash—specify SOLVAY!

SOLVAY SALES CORPORATION

*Alkalies and Chemical Products Manufactured by
The Solvay Process Company*

40 RECTOR STREET

NEW YORK 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit • New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse

NO OTHER CLEANER COMPARES WITH FULSHINE ALKALI PROOF CLEANER

A broad statement? Check it yourself! Compare Fulshine with any other cleaner and you'll find it is in a class by itself. Fulshine is alkali-proof* . . . contains a harmless reserve chemical that maintains a neutrally balanced solution and prevents the freeing of any harmful alkali. Used without rinsing, it gives a beautiful polished appearance to floors. Or can be used with rinsing for non-polished effect. Wax-free, Fulshine is a formula developed in the Fuld laboratories after long research. Its manufacture is laboratory controlled. Safe for all surfaces!



ORDER NOW!

Present day conditions make it advisable for you to anticipate your future requirements and place your order NOW. Then you can be sure of Fulshine for delivery to your customers when demand is great and supply is low. Order now!

702 South Wolfe Street, Baltimore 31, Md.
2444 East 8th Street, Los Angeles 21, California
New York Sales Office: 55 West 42nd Street

**Fuld
Brothers**

*Trade Mark Reg: U. S. Pat. Off.

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers



Official U. S. Navy Photo

THE *Real* JOB ...

Here are the boys that are doing the real job

Our job in our own small inconspicuous way is to help keep the home front running as smoothly as possible pending their return.

Products which are available to the perfumer at reasonable prices:

OIL OF BALSAM FIR AMERICAN
METHYL NAPHTHYL KETONE LIQUID
VERATRALDEHYDE
PHENYL ETHYL ALCOHOL
IONONE A. B.
IONONE METHYL

INDOL
PHENYL ACETALDEHYDE DIMETHYL ACETAL
HYDRATROPIC ALDEHYDE
PARA METHYL HYDRATROPIC ALDEHYDE
CINNAMIC ALCOHOL
CYCLAMAL

Also a full line of Aromatic Chemicals used for Perfumes - Soaps - Cosmetics

Requests for samples on your firm's letterhead and further information promptly furnished.



Aromatics Division **GENERAL DRUG COMPANY**

644 Pacific St., Brooklyn 17, N. Y.

9 S. CLINTON STREET, CHICAGO 6

1019 ELLIOTT STREET, W. WINDSOR, ONT.

SOAP

and

SANITARY CHEMICALS

Reg. U. S. Pat. Office

OCT.
1944

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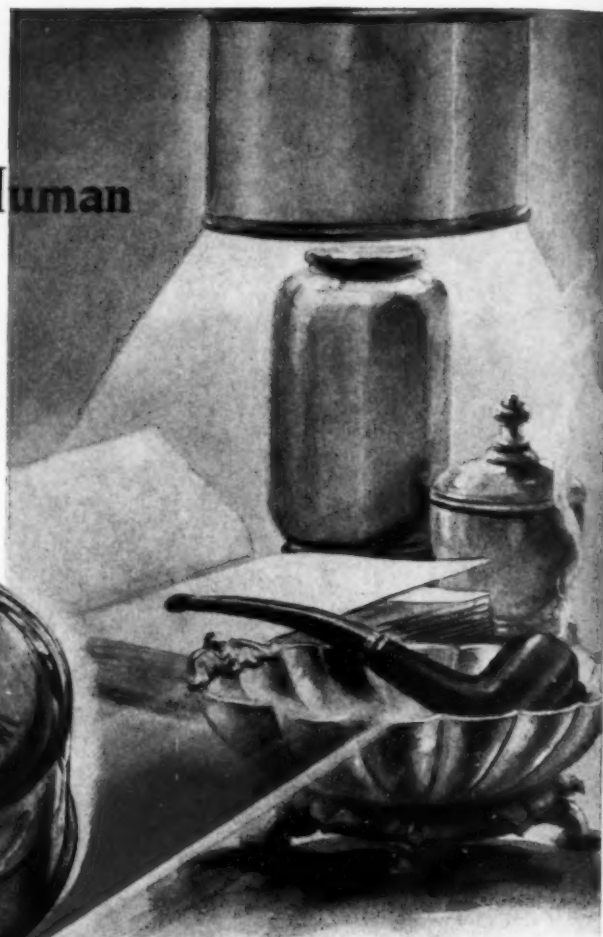
MAC NAIR-DORLAND COMPANY, INC.

254 WEST 31st STREET NEW YORK 1, N. Y.

Subscription rate, \$3.00 per year. Foreign, including Canadian, \$4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York, under act of March 3, 1879. Mail circulation September, 1944, 3911 copies. Total circulation 3,950.

Because People Are Human

Beauty Sells



PACKAGES BY RITCHIE PROVE THAT BEAUTY SELLS

People shouldn't judge by appearances. But they do! They *shouldn't* buy things they'll have to sweat to pay for, or a car that strains the budget—just because they're "better looking." They *shouldn't* select a product, from among its competitors, because it comes in a better looking *package*.

But—they DO!

Beauty influences their choice in *everything* from motor cars to mates. And while manufacturers can't *change* human nature, they do *capitalize* on it. That's why most products, from washing machines to radios, have been redesigned, not once but many times—and always to more pleasing forms, proportions, colors and finishes. Not to please manufacturers' fancies—but because *beauty SELLS!*

Beauty—in *packaging*—SELLS!

That is why, in *every* Package by Ritchie—whether it contains an exotic perfume or dry-battery cells—you will always find, in its lines, in its proportions, color or design, a strong eye-appealing quality—elements of beauty.

HOW TO GET A PACKAGE THAT SELLS

Let Ritchie design a package for you and it will have beauty *more than skin deep*. It will have the right material and structure for its job. It will be practical, convenient to use, easy to handle, to stack and display. It will proclaim your product-identity. It will be memorable and attractive. And Ritchie's expanded, war-developed facilities for volume production assure its low cost. Let Ritchie demonstrate how you can get a better selling package. No obligation. Write us today.

W. C.


Ritchie

AND COMPANY

8884 BALTIMORE AVENUE • CHICAGO 17

Set-Up Paper Boxes • Fibre Cans • Transparent Packages

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS



**quality
IN QUANTITY**



General Chemical "B&A" Reagent Acids and Ammonia

Quality in quantity shapes success...increases product potentialities. That's why, wherever reagent grade mineral acids or ammonia in commercial quantities are specified for industrial operations, General Chemical "B&A" high purity products are an outstanding choice nation-wide.

These reagents from America's foremost producer of mineral acids conform to exacting A.C.S. specifications. Their quality and purity are the result of General Chemical's progressive research and advanced reagent production technique, combined with invaluable "know-how" gained during almost half a century's manufacture of basic chemicals for industry.

Specify and rely on General Chemical "B&A" Reagent Acids and Ammonia for your operations. Remember...their dependability has been "proved in production" by America's leading manufacturers!



GENERAL CHEMICAL COMPANY

40 RECTOR STREET, NEW YORK 6, N. Y.

Technical Service Offices: Atlanta • Baltimore • Boston • Bridgeport (Conn.) • Buffalo • Charlotte (N. C.) • Chicago • Cleveland • Denver • Detroit • Houston • Kansas City • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • Providence (R. I.) • St. Louis • Utica (N. Y.)

Pacific Coast Technical Service Offices:

Los Angeles • San Francisco • Seattle, Wenatchee and Yakima (Wash.)

In Canada: The Nichols Chemical Co., Ltd. • Montreal • Toronto • Vancouver



General Chemical Reagent Acids and Ammonia are produced by the Company's Baker & Adamson Division, makers of laboratory reagents and fine chemicals since 1882. The experience of this Division with high quality chemicals embraces over 1,000 purity products.

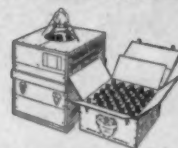
"B&A" Sulfuric Acid, Reagent, A.C.S.
Sp. Gr. 1.84

"B&A" Hydrochloric Acid, Reagent, A.C.S.
Sp. Gr. 1.18-1.19

"B&A" Nitric Acid, Reagent, A.C.S.
Sp. Gr. 1.42

"B&A" Ammonium Hydroxide, Reagent, A.C.S.
Sp. Gr. .90

"B&A" Acetic Acid Glacial, Reagent, A.C.S.



Quantities: "B&A" Reagent Acids and Ammonia are available in carboys as well as in five-pint or one-pound bottles, which are obtainable in case lots or less.

Stocked at key locations throughout the nation.

**"THERE ARE SOAPS THAT MAKE US HAPPY,
THERE ARE SOAPS THAT MAKE US BLUE!"**



Ask the average man: "What kind of soap do you use?"

**He looks blank. Ask the average woman. She knows —
she buys it. But she smells it first! Our perfume-chemists have
a flair for originating soap perfumes that women like.**

Right now we have some particularly fine ones.

VAN AMERINGEN-HAEBLER INC.

315 FOURTH AVENUE • NEW YORK 10, N. Y.

if you sell
QUALITY

... **SELL**

Hysolene

Hysolene gives you a
Companion Order
to every gallon of wax
you sell

Hysan's Great
**Emulsion Type
Wax Floor Cleaner**
.....

**and
WAX
REMOVER**

used DILUTED • it keeps wax floors clean, bright, and foot-safe

used CONCENTRATED • it removes old hard wax quickly

5 other **BIG** sales features

1 • CLEANS EVERY TYPE OF FLOOR—Rubber • Linoleum • Composition • Wood • Marble • Etc.

2 • REMOVES DIRT FASTER—faster than soaps and alkalis.

3 • PROTECTS THE FINISH—and leaves a satiny lustre.

4 • SAVES LABOR—Less frequent waxing required.

5 • NO SLIPPERY SOAP FILM—Floors stay foot-safe on **RAINY DAYS**

★ And Hysolene dissolves quickly in hot, cold or hard water—it's a creamy, soluble liquid.

SEND FOR SAMPLE OF HYSOLENE
Hysan Products Co. 58 E. Cullerton • Chicago 16

SANITARY CHEMICALS

Hysan

SELLING EXCLUSIVELY TO JOBBERS AND DISTRIBUTORS



Synthetic floral oils . . .

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

Styled **BY MARYLAND**

In your postwar packaging plans,
consider these and new stock designs to
come . . . bottles and jars in a wide range
of sizes . . . which Victory will make available
to new users of Maryland Glass.

MARYLAND GLASS CORPORATION, BALTIMORE 30 . . . 270 Broadway, NEW YORK 7 . . . Berman Bros.,
Inc., 1501 S. Laflin St., CHICAGO 8 . . . H. A. Baumstark, 4030 Chouteau Ave., ST. LOUIS 10 . . . J. E. McLaughlin,
401 Lock St., CINCINNATI 2 . . . Owens-Illinois Glass Co., Pacific Coast Division, 135 Stockton St., SAN
FRANCISCO 19 . . . Aller Todd, 1224 Union Ave., KANSAS CITY 7 . . . S. Walter Scott, 608 McCall Bldg., MEMPHIS 3.



An Open



FACORY
DELAN

Open Letter

TO THE PERFUME, COSMETIC AND SOAP INDUSTRIES



GIVAUDAN-DELAWANNA, INC.
330 WEST 42ND STREET
NEW YORK 18, N.Y.

ASSOCIATED WITH
L. GIVAUDAN & CIE.

NEW YORK
DELAWANNA, N.Y.

The encouraging developments in recent weeks, we feel, permit us to say without undue optimism, that for the first time a clear light is shining through on the path to peace. Should the present favorable situation continue, it is to be expected that some of the raw materials which have restricted our production and development will become available and certain of our aromatic materials will return to normal trade channels. As military needs decrease, our sources of heretofore scarce products will become more abundant.

Considering this, and the imminence of a return to normal business procedure, Givaudan offers a special service to assist in the practical realization of plans for the production of postwar products.

We extend the cooperation of our research laboratories and the assistance of our technical staff in preparing and testing new formulas and adapting materials for special postwar uses. Both our skill and our already extensive experience has been increased by the work of the last few years, which in many cases has been extremely exacting.

As Givaudan has consistently led in the past, so it will continue to lead in the future through the discovery and development of better materials for the perfume, cosmetic and soap industry. We invite you to take advantage of the cooperation we offer.

Sales Manager

BUY WISELY...BUY GIVAUDAN



PLAN YOUR PLANT DRIVE NOW!

Good organization will be needed to sell the 6th. The task of raising the huge sum required will be the most difficult ever asked of Industry. As each new military success brings us closer to Victory, the public naturally will feel that the urgency of war financing is lessened—whereas it isn't. So organize now to prevent a letdown on the home-front from causing a letdown on the fighting front. Build your plant's payroll campaign around this fighting 8-Point Plan. You don't have to wait for the official Drive to start—swing into action NOW!

1 BOND COMMITTEE—Appoint a 6th War Loan Bond Committee from labor, management and each representative group of the firm.

2 TEAM CAPTAINS—Select a team captain, for each 10 workers, from men and women on the payroll—but not in a supervisory capacity. Returned veterans make most effective captains.

3 QUOTA—Set a quota for each department and each employee.

4 MEETING OF CAPTAINS—Give a powerful presentation of the importance of the work assigned to them. Instruct them in sales procedure. Have them carefully study the Treasury Booklet, *Getting the Order*.

5 ASSIGNMENTS—Assign responsibilities for:
(a) Music, speeches and announcements of the opening rally.

(b) Pre-drive letter to employees from management and labor.

(c) Competitive progress boards.

(d) Meeting schedules, etc.

6 CARD FOR EACH WORKER—Dignify each personal approach with a pledge, order, or authorization card made out in the name of each worker. Provide for a cash purchase or installment pledge. Instruct each captain to put a pencil notation on the card to indicate the subscription he expects to solicit from each worker.

7 RESOLICITATION—People don't mind being asked to buy more than once. Resolicit each employee toward the end of the drive in a fast mop-up campaign. Call upon your State Payroll Chairman; he's ready with a fully detailed plan—NOW!

8 ADVERTISE THE DRIVE—Use all possible space in the regular media you employ to tell the War Bond story.

The Treasury Department acknowledges with appreciation the publication of this message by

SOAP and SANITARY CHEMICALS

This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council

STANDARD SODIUM SILICATE

 **IMPROVES THE BODY**

 **MAKES SOAP STOCKS GO FARTHER**

 **RETARDS RANCIDITY**

 **IMPROVES DETERGENCY**

**of FLAKE...POWDER...BAR
SOAPS**



DIAMOND ALKALI COMPANY • Standard Silicate Division

Plants at CINCINNATI • JERSEY CITY
LOCKPORT, N. Y. • MARSEILLES, ILL.
DALLAS, TEXAS

General Offices • PITTSBURGH, PA.

WIDE RANGE FLOWABILITY

A VARIETY OF VISCOSITY TYPES TO FIT EVERY JOB



METHOCEL

Among the many Dow Products serving the Cosmetic Industry are: Synthetic Aromatics, Dowicides, Propylene Glycol and Paradow.

In the preparation of a product, you have undoubtedly often wished for a water soluble colloid available in several different viscosities. Perhaps you wanted a solution much thicker—or considerably thinner—in order to obtain the specific results desired.

To meet your most exacting needs, we have designed Methocel in a wide variety of viscosity types. Selection of the most suitable type is dependent, of course, on results required and manufacturing limitations. Only when the right viscosity is used are maximum economy and efficiency achieved.

This wide-range flowability greatly expands the additional usefulness of Methocel in your operations—and, at the same time, promotes efficiency of application.

METHOCEL

THE ECONOMICAL, WATER SOLUBLE THICKENER



Methocel is a valuable addition to many cosmetic products requiring a thickener, protective colloid or stabilizer. For thickening purposes, a specially designed Methocel viscosity type is available. High viscosities are, naturally, generally recommended.

In protective hand creams and similar products, Methocel has several important functions. Emulsified forms of the product use Methocel as an emulsion stabilizer. In addition, Methocel serves as a protective film upon drying since it is resistant to both oils and organic solvents. By using low viscosity types here, desired amounts of solids are deposited.

Before adopting a specific Methocel type, we urge you to refer your problems to the Technical Service and Development Division.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle



CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

*These
G.I. SHOES
Can Take It*



What's that got to do with the shortage of Lanolin, Degras and Wool Grease for the home front? PLENTY!

Our soldiers' shoes can take it because they are made from top grade leathers that have been stuffed and waterproofed with wool grease to withstand mud, water and snow.

Today Lanolin and all grades of Wool Grease are on strict government allocation. As victory moves closer, the day approaches when America's largest selling brand of Lanolin, Degras and Wool Grease, the famous Nimco brand, will be available to all.



*Lanolin and Wool Greases
Help Fight for Victory*

BUY WAR BONDS

and support the fight

N. I. MALMSTROM & CO.

America's
Largest
Suppliers of



LANOLIN • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical

DEGRAS • Neutral and Common • Wool Greases

147 LOMBARDY STREET • BROOKLYN, NEW YORK

An ADVERTISING AGENCY Describes Your *Institutional* *Market!*

"Every single segment of the institutional field shows promise of being a bigger customer than ever before.

"The institutional field consists of those businesses and services whose functions are the mass housing and mass feeding of individuals. The major segments of this market include hotels, hospitals, restaurants, schools and colleges, industrial cafeterias, clubs, homes and asylums, public institutions and similar establishments. In addition it includes a vast array of government institutions such as veterans' hospitals, office buildings, welfare facilities and others.

"... There are approximately 300,000 institutions in the United States containing a total of 4,350,000 rooms. Their total floor area is 3,250,000,000 sq. ft. They employ over 4,000,000 workers. During a normal operating year the institutional field... is responsible for the purchase of \$6,400,000,000 worth of maintenance and operating supplies and equipment. In the immediate post-war period this figure will reach \$8,500,000,000, according to most recent surveys.

"As huge as the institutional market is today, it is going to be even greater after the war. The rapid growth of such influences as hospital insurance... the eating-out habit... the pent-up travel urge... the war boom in industrial cafeterias... all these and others... are exerting an upward pressure on the institutional market and every single segment of this field shows promise of being bigger than ever before... There is your institutional market! I strongly urge you to go after it."

The foregoing is from a talk by Mr. M. J. Evans, chairman, Evans Associates, Inc., advertising agency, Chicago, describing the institutional market before the June, 1944 Convention of manufacturers of cleaning compounds, disinfectants, insecticides and sanitary chemicals. Mr. Evans' photo, addressing this group, is shown at the right.



INSTITUTIONS Magazine is the only publication

through which you can reach all related divisions of the institutional field. If your present or contemplated products have an application to this field, your advertising messages in the columns of INSTITUTIONS Magazine will gain for them the kind of acceptance they must have to share in the huge institutional market.

A Complete Report

of Mr. Evans' study and description of the institutional market has been printed in booklet form. Copies are available upon request. Write to INSTITUTIONS Magazine, 1900 Prairie Ave., Chicago 16, Illinois.

Your
INSTITUTIONAL
MARKET

There's no Shortage of these Needed Hooker Chemicals

Soapmakers who are using some of their facilities for war work know how great is the demand for chemicals for war materiel, and understand why they may not always be able to get all the chemicals they need for their soapmaking. But of one thing they can be sure—that while Hooker may not be able to supply them with the quantity of caustic soda they would like to have, that which they do get is the same uniform high quality which has made Hooker the favored source

of supply for caustic soda and other soaps and sanitary chemicals for many years.

Fortunately this "tight" condition does not exist on all the chemicals you need. Listed below are some of the Hooker chemicals readily available that may lighten your burdens. If there are some you are not yet using, and want more information on them, the Hooker Technical Staff will be glad to help you.



Product	Description	Suggested Uses
Chemical Formula Molecular Weight	All Specific Gravities at 15.5°/15.5°C.	
Benzoate of Soda—USP <chem>NaC6H5COO</chem> ; 144.0	White, odorless, crystalline solid.	Antiseptic in pharmaceutical and medicinal preparations, in tooth pastes and powders.
Benzoic Acid <chem>C6H5COOH</chem> ; 122.1	White, crystalline material.	Ingredient of cosmetic creams, lotions and other pharmaceutical preparations; antiseptics, dentifrices, dyestuff intermediates. Manufacture perfumes and pharmaceuticals.
Benzoyl Chloride (Benzene carbonyl Chloride) <chem>C6H5COCl</chem> ; 140.5	Water clear liquid soluble in ether; reacts with alcohol and water. Sp. Gr. 1.219±.003. Boiling Point 198°C. Freezing Point, Min. -0.9°C.	Highly active source of benzoyl group. Manufacture of benzophenone, benzyl benzoates, synthetic perfumes, dyes and pharmaceuticals.
Cyclohexanol (Hexahydro Phenol) <chem>C6H11OH</chem> ; 100.1	Clear, colorless liquid with pleasant aromatic odor. Sp. Gr. 0.962. Boiling Range: High Grade, 158° to 160°C, Tech. Grade, 155° to 165°C.	In manufacture of disinfectants, germicides and insecticides, perfumes in soaps, solvent.
Methyl Benzoate (Niobe Oil) <chem>C6H5COOCH3</chem> ; 136.1	Clear, colorless liquid with odor resembling oil of wintergreen. Sp. Gr. 1.0930. Boiling Range 4°C Max. including 199°C.	Deodorizing material for soaps and in manufacture of perfumes.
Methyl Cyclohexanol (Hexahydro Cresol) <chem>CH3C6H10OH</chem> ; 114.1	Slightly viscous straw colored, neutral liquid which becomes glasslike when cooled below room temperatures. A mixture of ortho-, meta-, and para- isomers. Sp. Gr. 0.924±.003. Boiling Range 155 to 180°C.	Perfume in soaps and to incorporate solvents and phenolic insecticides; solvent.
Orthodichlorobenzene (1:2 Dichlorobenzene) <chem>C6H4Cl2</chem> ; 147	Clear, colorless liquid, Sp. Gr. 1.310±.005. Boiling range 10°C Max. including 180°C.	Insecticide, solvent for natural and synthetic gums, resins, tars, grease, oil, fats. Ingredient of metal polishes, paint and varnish removers. Insecticide for: termites, powderpost beetles, flies, bed bugs, roaches, wood borers, midges, barnacles, etc. Manufacture of pyrocatechin, dye intermediates, synthetic organics.

Hooker General Products List gives packaging information on these products and also brief descriptions and data on the other Hooker chemicals. Send for a copy.

HOOKEE
ELECTROCHEMICAL COMPANY
Buffalo Avenue and Union Street, Niagara Falls, N. Y.
NEW YORK, N. Y. • TACOMA, WASH. • WILMINGTON, CALIF.

HOOKEE
CHEMICALS

BLEACHING POWDER

CAUSTIC SODA

FERRIC CHLORIDE

PARADICHLORBENZENE

MURIATIC ACID

October, 1944

Say you saw it in SOAP!

Make Your Contacts Now

★ ★ ★ for Contracts Later

October starts the *big buying season* in the dairy industries.

Supplies needed for next year are up for consideration now.

Buying decisions are being made.

Your advertising in the National Butter and Cheese Journal, The Milk Dealer, and The Ice Cream REVIEW will bring you contacts now that mean *contracts* later.

These 3 leading Olsen publications put you into the front selling line of the dairy industries. Here is a rich responsive market for insecticides, cleaners, detergents, and germicides that will repay you handsomely in sales returns.

Write us for facts about selling your products to this huge national market *at low cost*.

THE OLSEN PUBLISHING COMPANY

505 W. Cherry Street

Milwaukee 12, Wis.

The
**ICE CREAM
REVIEW**



the
**MILK
DEALER**



National
**BUTTER and Cheese
Journal**



NEW LOWER PRICES FOR POLYETHYLENE GLYCOLS AND "CARBOWAX" COMPOUNDS

These glycols

- Are chemically stable
 - Have a broad range of hygroscopicities
 - Are soluble in water
 - ... and are available in consistencies ranging from liquids to waxy solids resembling petrolatum or paraffin.
- At their new lower prices, "Carbowax" Compounds—solid polyethylene glycols—and liquid Polyethylene Glycols should be even more popular as lubricants, binders, plasticizers, or thickening agents... applications where they are often superior to many natural oils, gums, and waxes ordinarily used.
- Chemically, Polyethylene Glycols can be modified by reacting the hydroxyl groups to form surface-active compounds useful as detergents, and emulsifying agents, or unusual alkyl resins.
- The "Carbowax" Compounds are solids supplied in five different molecular weights ranging from 1000 to several thousand. The liquid Polyethylene Glycols are available in four molecular weights from 200 to 600. Almost any desired consistency can be obtained by blending them.
- Write for further information on the physical properties, uses, and new lower prices of the Polyethylene Glycols and "Carbowax" Compounds.

Some Commercial Applications of Polyethylene Glycols and "CARBOWAX" Compounds

Ceramics

Color binder and vehicle, mold lubricant, modifier for cements and plaster.

Agriculture

Binders, carriers, and spreaders for plant hormones, fertilizers, larvicides, and insecticides.

Leather

Polishes; cleaners; dye penetrant; dressing agent.

Metal

Extrusion and drawing lubricants.

Paper

Coating, softening, and sizing agents; plasticizer for zein coatings.

Pharmaceuticals

Carrier and solvent for hormone, sulfa drug, peroxide, and other ointments.

Photography

Film lubricant.

Polishes

Lubricant and film-former; spreading agent.

Pigments and Paints

Carrier and dispersing agent.

Rubber

Mold lubricants; compounding wax; activator for mercapto-type accelerators.

Textiles

Lubricant; dispersant for dyes; finishing agent; sizing compounds; detergent intermediate.

Cosmetics

Ingredient of creams, lotions, hair-dressings, and make-up preparations.

BUY UNITED STATES WAR BONDS AND STAMPS

CARBIDE AND CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

UCC

30 East 42nd Street, New York 17, N. Y.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

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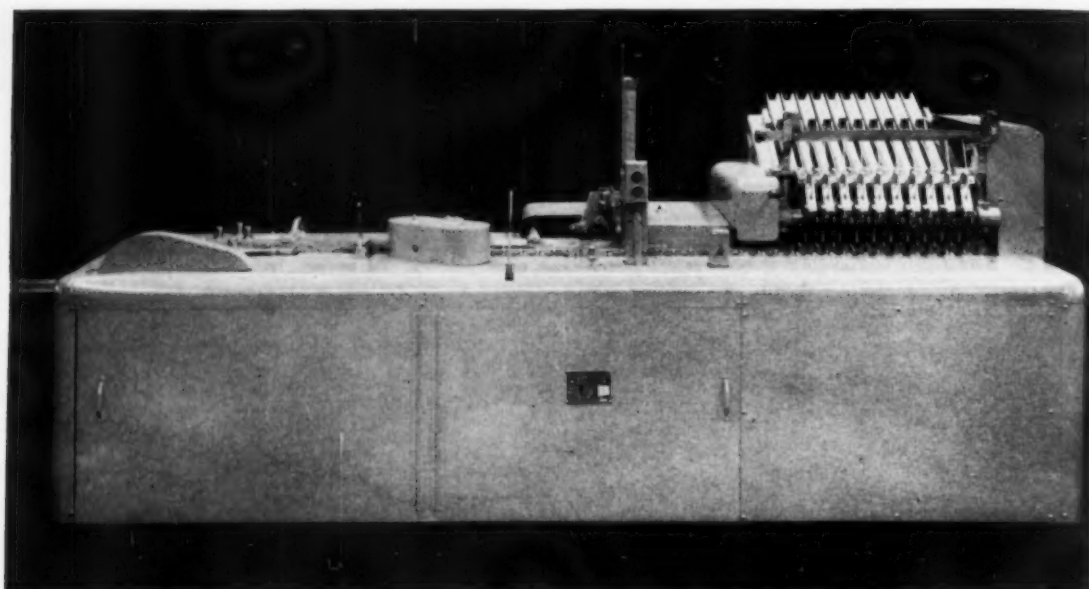
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SUPPLIES of paper shipping containers, cartons, and other paper packaging materials in the hands of soap, cleanser, and allied manufacturers are probably smaller than they have been for many a long year. The manufacturer who has not been operating from hand to mouth on containers for civilian goods is a rare exception. Over the past six or eight months, the shortage of packaging materials has in fact been more of a bottle-neck than any lack of finished products to be packaged. This is a situation which some buyers of packaged goods fail to appreciate or one which they choose to ignore in their frequent angry demands for deliveries.

To those manufacturers who have been making use of all sorts of make-shift containers, there is little comfort in the outlook for the next three months. In fact, the prediction has been made that the present shortage will continue for eight or ten months after the termination of hostilities in Europe. The civilian supply of paper products for the fourth quarter of 1944 stands at an estimated 75 per cent of total production as against 81 per cent for the first quarter of this year. With the lifting of limitation orders by WPB, pent-up requirements for products now restricted are expected to swell the already heavy demand for all types of paper packaging materials.

Until there are indications of a change in the pulp and paper situation from the present gloomy outlook, manufacturers of packaged household products must be guided accordingly and should make clear to their customers that deliveries over the next year must of necessity continue to be restricted in keeping with the container situation. In the

meantime, further reduction in smaller sizes and any possible increase in emergency packaging methods should not be overlooked.



ONE hundred million pounds of soap is a lot of soap in any man's language and especially at a time like the present. And the American soap industry realizes this more clearly perhaps than the War Food Administration, the Foreign Economic Administration and other government agencies in spite of the difficulties which the latter are having in purchasing this quantity of soap to fill the needs of the reconquered areas of Europe. Maybe this quantity of soap is needed, and in a big hurry, but it still seems like a mighty large lot to be bought at one time. Just the mention of this quantity is enough to scare half to death the average soaper who is in a position to supply a share of the order.

Among the difficulties in supplying this huge tonnage of soap, it seems, is the problem of containers. What to ship it in! In the light of the container shortage, could it be shipped in bulk in barrels among other forms of packages? And most of it will probably be shipped this way,—solid chunks of soap weighing some four or five hundred pounds each. When ready for use, the barrel will be stripped away like a soap frame and the chunk cut up in small pieces. But we fear that this cutting may not be as easy as it looks and that there may be considerable waste. Maybe it would be easier to equip each barrel with a small center charge of

dynamite and just blast when the time comes. Nevertheless, reducing the big chunks to small pieces is quite obviously going to be the consumers' problem which they will probably solve in their own quaint way. All the American soapers have on their hands is the job of making and shipping the soap without stripping the gears on their regular production and delivery schedules.



SOME rather definite plans are reported shaping up in Washington on handling the disposal of surplus supplies during the post-war period. Conscious of abuses which flourished following the first World War, the Government aims to avoid the same pitfalls and to dispose of excess war goods to the best advantage of the country and with as little disturbance of regular business as possible. These aims are to be commended, but it will take more than just good intentions to avoid glutting the market with many items to the point where it may jeopardize the future of certain industries.

To solve the post-war surplus problem, several plans have been suggested among manufacturing groups in industry. Included in these are one or two points which might be made a part of a general disposal plan to apply to all types of products. The suggestion has been made that the original manufacturer or supplier be given first opportunity to buy back the surplus of his materials at a price representing a definite percentage of the first selling price. Thereafter the goods might be offered to others within the industry and then to anybody who might want to buy them. The second suggestion is to call in trade associations in every industry for consultation and advice before offering war surpluses for sale. The third suggestion is to retain intact present WPB advisory committees to act likewise in an advisory capacity. Any plan incorpo-

rating one or more of these ideas in a practical way should be of help in minimizing the upset in industry which the disposal of war surplus goods is very likely to cause.



AAGAINST the ceiling prices on soap, a bitter protest has been registered by a small western manufacturer. He points out the increased cost of fats, rosin, fuel, labor, packaging materials, freight and shipping, and other things which enter into costs. He states that it is impossible to bid for labor against other industries and that soap plants in his section of the country have constantly lost men to the point where it has been impossible to operate at quota capacity. An acute shortage of soap, in some localities reaching the famine point, has developed, he says further, as a result of this and also because the larger soapers have cut drastically their shipments into the territory. He concludes that had not the smaller soapers carried on in the face of these conditions, many a community within his state would have on many occasions been soapless,—a situation growing out of present ceiling prices.

When we consider that soap makes up only a very minor fraction of the family budget,—about one-half per cent on the average,—the unusual care and attention given to its ceiling prices by OPA do seem a trifle grotesque. These prices have permitted a squeeze on the small soapers in spite of the theorizing of OPA economists to the contrary. They have nailed him down to the point where he is fully justified in practically quitting soap making,—as any number of small plants have done,—and turning to producing other things where he can make a decent profit. Were it not for side-line specialties, some small soapers would have long since shut down. Economically, this is bad business which even OPA should recognize unless it is their intent deliberately to squeeze the smaller manufacturers.

MEDICATED SOAPS

By MILTON A. LESSER

DESPITE the ever-growing importance of soap in modern medicine, the value of medicated soaps has been a somewhat neglected subject. Nonetheless there are several indications of revived interest in these germicidal and therapeutic soaps. Moreover, there are signs that properly formulated medicated soaps may yet recover some measure of their former popularity. Mildly medicated toilet soaps, which do not really belong in the medicinal category, have of course more than maintained their following with the general public.

One definite sign of increasing interest is the recent survey on germicidal soaps prepared by Morton (1) for the Council on Pharmacy and Chemistry of the American Medical Association. While not especially flattering to germicidal soaps as a group, the report did show clearly the many variable factors requiring consideration in making a bacteriological evaluation of these agents. Similar difficulties lie in the way of a clinical assessment of medicated soaps. As Goodman, (2) has remarked, soaps offer a convenient way of applying medications, but it is not a method conducive to accuracy of dosage since one never knows how much of the drug reaches the affected area through the medium of suds.

Obviously a good deal must be done to satisfy the "show me" attitude justly taken by physicians, who, in the end, will be the deciding element in the future of medicated soaps. As Ruemele (3) has stressed, all claims of medicinal action must be based upon experimental demonstrations of effectiveness surpassing that of the soap alone. Popular opinion is not enough in these days of scientific research.

As was pointed out a good many years ago, (4) the incorporation of a medicinal agent in a soap presents certain practical problems because of the physical properties of the resulting mixture or because of the chemical reactions that may occur when the two agents are combined. More recent studies have served to emphasize these factors. In England, Berry (5) studied the bactericidal value of Lysol B. P. for several types of soap bases and found that this value varied according to the type of oil used in making the soap. Thus, soap bases made from coconut oil show a higher value, while those from peanut, olive and cottonseed oils are poorly bactericidal. Of pertinent interest in this connection is the finding that rosin soaps have unusual efficacy against pathological organisms, (6) and that the combination of rosin soaps with coconut oil soaps is more active germicidally than the usual commercial soaps free from rosin (7).

Medicated soaps are provided in various forms. Physicians as a rule most frequently employ liquid or paste soaps, but cake soaps find more general use and are much more convenient. The formulation of medicated soaps presents no particular difficulties, standard processes being used. In the production of solid cake soaps, it has been advised to keep the amount of free alkali low, to limit the salt content to a maximum of 0.2 per cent and also to keep the water content down. Manufacturers of a variety of medicated soaps find it more convenient to select a suitable soap as a base and to add the requisite quantity of medication to the powdered or chipped soap prior to milling and plodding. Where the additions are of a liquid

nature, it is generally necessary to mill the soap more than the usual number of times, or to reduce moisture content of the soap base. The amount of germicide or therapeutic agent added seldom exceeds 5 per cent, but a proportion of about 2½ per cent is more common. (8).

In the case of semi-boiled or cold process soaps, the drug additions are usually made during the crutching. One advantage of soaps made by this process is that the glycerine is retained to lend its skin-softening and emollient effects to the finished soap. With liquid or paste soaps, the medication is often included as an addition to the finished product.

Literally scores of formulas are available for making medicated soaps. While there are no clear-cut lines of demarcation between them, it is convenient to divide such products into two main categories: germicidal soaps containing phenol, cresol, mercury salts, and other antiseptics; and therapeutic soaps utilizing sulfur, tar, and other dermatologically - useful compounds.

Phenol still commands a certain degree of popularity, not only for the germicidal properties it imparts but also because it provides a sanitary odor which some people like. Typical of its use in a surgical liquid soap is the following formula given in the last edition of the "Pharmaceutical Recipe Book":

Cottonseed oil	210 cc.
Coconut oil	95 Gm.
Alcohol	190 cc.
Sodium hydroxide	43 Gm.
Potassium carbonate	10 Gm.
Ethyl oxide	15 cc.
Liquefied phenol	25 cc.
Water, to make	1000 cc.

Mix the oils thoroughly with the alcohol and 100 cc. of water. Dis-

solve the hydroxide and carbonate in 300 cc. of water. Mix the two solutions and warm until saponification is complete. Cool, add the ethyl oxide, phenol and sufficient water to make 1000 cc.

Of the many formulas available for making carbolic soap for toilet purposes, the following, (8) prepared by the cold process, is rather typical:

	Parts
Coconut oil	80
Tallow	40
Soda lye (38° Be.)	60
Phenol	3

The phenol, dissolved in a little water, is crutched well into the soap. If desired perfuming may be achieved by adding a little clove, lavender or rosemary oil. The shaped cakes should be well wrapped to provide an air-tight package.

If an odorless phenolated soap is desired, this can be done through the use of about 3 per cent of a fatty acid phenol ester such as phenyl stearate, palmitate or oleate. These esters are said to be non-irritating to the skin and to be stable to alkalis. (8)

Cresol is one of the more widely used efficient disinfectants and finds frequent utility in germicidal soaps. The official soap solution of cresol, Saponated Solution of Cresol U.S.P., has about twice the germicidal value of phenol. It is much used in medicine, being employed for disinfection of the skin, lubricating the hands and, in 1 to 5 per cent dilution in water, for vaginal douches. (9) Cresol is also a frequent component of many other soaps, including one of the most popular of toilet soaps.

MERCURY salts are among the oldest germicidal additions to soaps. Mercuric chloride, proposed by McClintock (10) back in 1897, has been used for the longest time and appears to be the most effective germicide after incorporation into soap. (11, 12). Its bacteriostatic efficacy is substantiated in Morton's (1) very recent report. In commenting on Morton's findings, Klauder (13) also reported that patch tests had shown that the skin of normal persons does not react to 2 per cent mercuric iodide in 3 per cent solution of sodium thiosulfite

(used to bring the mercury salt into solution). Of definite importance was his observation that, "The allergenic index of mercury is not high, certainly not sufficiently high to constitute an obstacle in the routine use of mercurial compounds on the skin." One familiar brand of germicidal soap containing mercuric iodide has been recommended as a shampoo and wash in treating acne varioliformis, a chronic and recurrent skin disease of unknown cause. (14) This particular brand of medicated soap is available in three forms: as a liquid soap containing 0.25 per cent mercuric iodide, and two bars containing 1 and 2 per cent of the mercury salt, respectively.

It has been suggested in one technical source (8) that mercuric iodine is best added by mixing four parts of mercuric iodide with three parts of potassium iodide and two parts of water, then incorporating the precipitated salt with the milled soap.

Of course other mercurials, including organic mercurial compounds, some protected by patents, (15) are used in formulating germicidal soaps. Mercuric chloride is not readily incorporated in soaps because it reacts with the soap to form complex insoluble compounds. Various methods have been employed to overcome this difficulty. One British method (16) uses 1 per cent of mercuric chloride with sulfonated palmitic acid and sufficient soda ash to neutralize. In another, (17) the mercury salt is used in conjunction with hydroxyethane sulfonic acid oleic acid ester, plus ammonium sulfate and water, and soda ash as a neutralizer. In another process, (8) the mercury compound is mixed with an alkaline casein solution to form a mercury albuminate soluble in alkali.

Iodine has been suggested as an antiseptic addition to soaps but in its free form it is not stable. One way of introducing iodine into a soap is to add it in the form of a compound with an unsaturated fatty acid, such as oleic acid. Potassium iodide has also been frequently employed, and while such soaps are quite stable, this salt exerts little if any bactericidal effect. So-called obesity soaps containing iodine compounds were rather popular some

years ago, (18) but apparently are little used today.

OF course numerous other antiseptics have been employed in making germicidal soaps. Many years ago Cavel (19) demonstrated that many of the essential oils used in making soaps are highly antiseptic, most of them with antiseptic values higher than those of phenol. A highly antiseptic perfume for use in soap has been described by Poucher (20) in his famous text on perfumes and soaps. Illustrative of the way in which an essential oil may be used is the incorporation of Australian ti-tree oil in the following antiseptic liquid shampoo: (21)

	Parts
Oleic acid	7
Ti-tree oil	3
Coconut fatty acid	12
Triethanolamine	10
Glycerine	2
Water	66

At this point it should be pointed out that shampoo soaps for therapeutic use in diseases of the scalp are frequently medicated with tar, sulfur, betanaphthol, oil of cade and other beneficial agents. Illustrative examples of such medicated shampoos are given in Goodman's (2) text, the following pine-tar shampoo being a typical example:

	Parts
Soluble pine tar liquid	4
Soft soap	32
Alcohol	50
Water, to make	100

Antiseptic dyes, such as the flavines, are coming back into favor. Proflavine, for example, has proved its value in the treatment of many types of war wounds and is finding increasing utility in medicine. (22) The advantages of this antiseptic may be attained in a proflavine liquid soap described by Albert and Bennett, (23) long advocates of the benefits of this antiseptic:

Proflavine base	0.5 Gm.
Oleic acid	17.7 Gm.
Potassium hydroxide	3.8 Gm.
Ether	5.0 cc.
Distilled water, to make	100.0 cc.

Mix the proflavine base with 0.7 part of the oleic acid dissolved in the ether. Evaporate the ether and triturate the product with the liquid soap produced

as follows:—Dissolve the potassium hydroxide in 80 cc. of water, and pour into the remainder of the oleic acid; both solutions being at 100° C. Shake gently until dissolved, cool and adjust with further oleic acid or potassium hydroxide until a few drops give, with phenolphthalein, a faint pink color vanishing on the addition of alcohol. When the proflavine oleate is dissolved, adjust to volume.

These workers are of the opinion that the above soap, through its abundant lather with water, plus its staining properties, provides a means of simultaneously cleansing the unbroken skin and depositing the antiseptic dye upon it. They feel that this soap may prove of value in preparing the skin of patients before operation and also in the surgical "scrubbing up." The stain is readily removed with soap and water.

Occasionally, because of their fat dissolving and penetrating ability, as well as for their antiseptic action, certain organic solvents are used in conjunction with soaps. Illustrative is the following simple acetone surgical soap, suggested in one of the British sources: (18)

	Parts
Soft soap	25
Water	30
Acetone	45

The recent patent literature offers several examples of new developments in the field of antiseptic and germicidal soaps. According to one of these, (24) a soap base with a specified moisture content range is made germicidal by the use of finely divided crystals of Chloramine-T, Chloramine-B or Dichloramine-T dispersed throughout the soap. Of interest in this connection is a report in a European journal (25) published about 11 years ago on the disinfecting action of a soap containing 4 per cent chloramine. While there is nothing especially new about the value of silver compounds as antiseptics, it is noteworthy that over a decade ago, a French patent (26) was issued covering the use of metallic silver in the production of soaps with disinfecting action.

Other, newer patents (27, 28) for liquid antiseptic soaps are based upon the use of specified hardwood oils

and certain additions to prevent the darkening of the oil. Another group of patents (29) is based upon the use of an alkyl phenol, such as hexyl cresol, plus other specified agents, in the manufacture of germicidal soaps.

Therapeutic soaps find their greatest use in the treatment of skin diseases. Tar and sulfur, alone or in combination, are the most frequently employed, although such agents as ichthyol, camphor, menthol, thymol, balsam of Peru, styrax and peroxide have been found to be suitable additions. (30)

NO one will deny that tar soaps, in both liquid and cake form, are still among the best-selling of the medicated soaps. Medicinal tar still remains one of the most valuable of agents for treating a variety of skin diseases. According to Goodman (2) tar soap is popular as a shampoo and the drug has been advised for use in conditions of scaly scurf scalp which is not associated with greasy skin. Such soaps do not present any particular problem of formulation. One authoritative source (18) states that the best base to employ for making coal tar soap is a good milled soap prepared by the grained process. However, it is pointed out that coal tar soaps have been replaced by the wood tar variety employing birch tar and juniper tar. Before crutching the tar into the soap it is usually neutralized with alkali. Sometimes a small amount of black dye is also included to maintain uniformity of color. A typical birch tar soap given in this publication consists of:

	Parts
Birch tar	100
Water	50
Lavender oil	5
Coconut oil soap	900

The formula for a tar soap, as suggested by Unna, the well-known dermatologist, is given as follows:

	Parts
Wood tar	5
Superfatted soap base	95

Where a tar soap based on coal tar is desired, the following will serve as an illustrative formula: (8)

	Parts
Coconut oil	10
Caustic soda (40° Be.)	5½
Coal tar	2

FEW drugs rate such importance as sulfur in the treatment of skin diseases; its action being due to a mild antiseptic effect combined with reducing properties. Sulfur soap is used in parasitic diseases of the skin as a preliminary to other applications and in soap therapy. Such preparations have also been advised for treating greasy scalp conditions. (2) More recently, sulfur soaps have gained quite a reputation for their ability to prevent chigger bites and for treating scabies. (31)

Although amorphous and crystalline sulfur are used in soaps, many efforts have been made to provide this component in a more finely divided colloidal form so as to secure a more efficient action. Efforts along this line are evident in the patent literature (32, 33) in which soaps containing sulfur are made through the use of polysulfides. This procedure has been recommended chiefly for liquid soaps. Other patented methods (34) have described procedures for overcoming the odor of sulfur soaps. A typical sulfur soap may be prepared by saponifying 10 parts of coconut oil with five parts of caustic soda (40° Be.) and adding two parts of flowers of sulfur. (8)

Sulfur is frequently combined with tar to obtain the beneficial effects of both agents. A tar-sulfur soap, said (8) to be widely sold for the treatment of a variety of skin diseases, is a brown soap prepared by dissolving two pounds of potassium sulfide in a small amount of water and adding it to 20 pounds of yellow stock soap together with four pounds of birch tar oil. The mass requires several millings.

Ichthyol, another important dermatological medicament, may also be combined with sulfur to make milled medicated soap, as in the following example:

Soap chips	28 lbs.
Ichthyol	4½ oz.
Petrolatum	2 oz.
Zinc oxide	2 oz.
Flowers of sulfur	2 oz.
Chlorophyll (oil-soluble)	1½ oz.
Medicated perfume	4 oz.

More specialized soaps are suggested from time to time in the patent literature. Of definite interest is a fungicidal soap proposed as a prophylac-

tic against fungi-caused diseases such as "athlete's foot." This consists of a soap to which sodium thiosulfate and a small amount of copper sulfate have been added. (35) Another trend noted in the patent field is the formulation of soaps with deodorant or anti-perspirant properties. One such preparation, said to provide good lathering qualities plus a deodorant action, is made by combining 10 to 30 per cent of sodium bicarbonate with an approximately neutral soap. (36) Two foreign patents granted to one inventor (37) describe methods for making anti-perspirant soaps. According to the claims of the specifications, a cosmetic soap with anti-perspirant action is prepared by adding three to five parts of chromium trioxide, one to two parts of methenamine and one part of aluminum acetate to 100 parts of melted hard soap, which is then allowed to harden in suitable molds. In looking over the components of this soap, one wonders how efficiently it has been checked for possible toxic or irritating effects.

ANIMAL soaps, such as dog soaps, command quite a respectable market. Since they are usually medicated, they warrant consideration here. While it is quite true that a good grade of neutral soap is often recommended for animals, most dog soaps contain a medicinal agent to overcome the "doggy" odor and lend added qualities to the cleansing of the skin and fur. Tar soaps, such as those described above, are very popular. Sometimes they also contain a small proportion of phenol or cresol.

Methods for making animal soaps are given in standard reference texts. (8) From this source is obtained the following formula for a dog soap:

	Parts
Coconut oil or palm kernel oil	50.0
Caustic soda (38° Be.)	22.0
Caustic potash (38° Be.)	4.0

This base is prepared by cold saponification, and then there is added:

	Parts
Napthalene	1.5
Alcohol	1.5

After this there is cautiously added:

	Parts
Cresylic acid	4.0

Because it thickens rapidly, this soap must be poured quickly into molds. When cooled it may be cut to size and shaped as desired.

If a liquid soap is wanted, perhaps the following soap, suggested in a British text, (18) will serve:

Soft soap	30 oz.
Phenol	3 oz.
Eucalyptus oil	1 oz.
Water, to make	1 gal.

An almost identical combination of ingredients has been recommended as a shampoo for dogs. Animal shampoos are not particularly difficult to formulate as is evident from the combination given below, designed for use on dogs:

	Parts
Soft soap	50
Water	100
Lysol	5

Soap, of course, enters to some extent into the preparation of many products for dog care as well as of other animals. Special washes for maintaining the healthy condition of the hair and skin often contain substantial amounts of soap. Insecticidal and parasitocidal solutions frequently utilize the emulsifying properties of soaps.

It is quite evident that a larger market for medicated soaps can be created, but this can only be achieved if and when the physician, and through him the consumer, can be convinced that such products offer something over and above that provided by the many excellent straight soaps now available to the public. The burden of proof rests with the medicated soap manufacturer.★

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The recrystallization of sodium soaps in mineral oils was studied. Non-polar oil acts as an inert diluent and recrystallization is essentially that from a hot melt. Polar compounds exert some solvent action on the soap in the mesomorphic states, and shear is an important factor in determining the form of recrystallized soap in such systems. The preparation of a sodium soap lubricating grease is essentially a recrystallization of the soap. The properties of the grease can be altered over a wide range by suitable adjustment of the factors during recrystallization. W. Gallay and I. E. Puddington. Can. J. Research 22B, 90-102 (1944).



In addition to their output of pulp the country's paper mills now also produce as a by-product thousands of tons of tall oil for use in soap.

Refined Tall Oil in SOAPS

By
Bennett Woods
and
George G. Johnston†

WARTIME shortages of soap stocks have forced the soapmaker to seek new raw materials. Refined tall oil (a transparent oil of amber color, composed of fatty and rosin acids) has already established itself as a regular soap stock item with many of the progressive soap companies, who have recognized its possibilities, and who state that it is here to stay.

Tall oil is no longer the "Cinderella" of the fatty acid family. True, it has its limitations, but what soap stock hasn't? Tall oil's low titre limits its use in hard soaps. Objection has been made to the papermill odor that it possesses, and to those tall oils which are dark in color. During the course of the several years that refined tall oil has been on the market, however, the

producers have been able to improve their product, so that one can now obtain refined tall oils of greatly reduced odor, and markedly improved color.

Enterprising chemists have discovered that refined tall oil offers many more advantages through utilization, than was first suspected. To indicate the regard it has gained, it is now difficult for production to keep abreast of demand, whereas when it was first offered, consumption was low until research had shown the way to use it. Let us welcome this newcomer

to our ranks, and look over what it can do for us, before we are tempted to pass hasty judgments.

Refined Tall Oil in Hard Soaps

In the manufacture of hard soaps, refined tall oil, with its exceedingly low cost, is regarded as an excellent replacement for rosin, and is normally employed in the soap kettle in the same manner as rosin, i.e., thrown in after the last glycerine wash has been removed. However, because of some of tall oil's novel reactions, it deserves serious consideration as a supplementary stock for hard soap production.

Refined tall oil is saponified more quickly than are the fats and oils which are normally used for the production of hard soaps. In addition to this, its soaps hydrolize to a greater degree than those of the other fats. This characteristic, plus the fact that

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tall oil soaps exert a strong affinity for the other fats and oils, all tend to hasten the rate of saponification of the other fats. Briefly, it may be stated that the presence of tall oil is comparable to the addition of an accelerating agent for the saponification of the fats and oils in your kettles. This observation was made in a series of boilings in which tallow, coconut oil, and refined tall oil were used. As part of the experiment, check boilings were run under identical conditions employing only the tallow and coconut oil as stock. In all cases, it was apparent that the boilings of the stocks which included the refined tall oil saponified more quickly than those which did not include the tall oil.

As to the quantity of refined tall oil to use, it was found that the optimum amount ranges between fifteen and twenty per cent based on the total weight of the fat charge. When employed in quantities greater than twenty per cent the resulting soap was found to be too soft for use as cakes or bars. The following is a brief picture of the method of boiling employed, done in small scale laboratory batches.

Stock used:

Tallow	75%
Coconut Oil	10%
Refined Tall Oil	15%

Procedure: The refined tall oil was charged into the kettle along with the tallow, and the caustic soda was added after the fats were heated sufficiently. It was noted at this stage of the boiling that the rate of saponification of the bulk of the fat, the tallow, was accelerated. Then the coconut oil was added and the kettle finished off at a free alkali of 0.25 per cent, expressed as sodium oxide. After the lye washings, the free alkali dropped to 0.18 per cent. The soap was allowed to settle for one day, and at the pumping, it tested 0.10 per cent for free alkali and 32 per cent to 34 per cent in moisture. After running over the dryer and through the milling operations, the soap tested 0.02 per cent for free alkali and 13 per cent in moisture. The resulting cake, compared with the check cakes, lathered freely, and cleaned soiled textiles with greater ease. It

was also noted that the tall oil odor was not noticeable in the finished cake of soap.

It should be noted at this point that refined tall oil's low cost (at this writing, lower than rosin) its high detergency value (compared with regular soap stocks), and its availability, qualify it for consideration by all those who manufacture bar soaps, granulated soaps, soap chips, and dishwashing compounds. Experiments also have indicated that the use of tall oil in soaps aids in dispersing hard water scums.

Refined Tall Oil in Soft Soaps

In this phase of soapmaking refined tall oil performs exceedingly well. The saponification presents no difficulty, and is quite rapid. In a series of experiments, refined tall oil was used as the sole stock and was also saponified in conjunction with other fats and oils in producing liquid soaps and gels. It may be advisable at this point to state that both the soda soaps and potash soaps of tall oil are very soft, even with a twenty five per cent moisture content. Hence, if a firm gel is desired, other stocks should be used in conjunction with the tall oil. Gel soaps were produced with combinations of refined tall oil with coconut oil, corn oil, peanut oil, soya bean oil, red oil, and the vegetable fatty acids. The resulting products were very satisfactory and could be employed in many uses ranging from automobile soaps to floor cleaning gels. With the moisture content at 20 per cent to 30 per cent, gel soaps made from 50 per cent refined tall oil, were firm and not too moist.

The presence of the tall oil soaps in these gels enriched them with an added degreasing value which would normally not prevail. This is attributed to the great affinity that tall oil soaps possess for oils and greases. Simple cleansing tests were conducted in the laboratory using textiles, metals, and woodwork as objects for cleaning. The gels that were made from the refined tall oil combinations performed more satisfactorily than those made from fatty acids alone. This very valuable feature of refined tall oil, its

high detergency value, is well worth investigating.

In the manufacture of liquid soaps, refined tall oil may be employed alone or in a combination with vegetable oils or their fatty acids, depending upon the uses for which such liquid soaps are intended. The clarity and transparency of the tall oil soaps can well aid in improving the appearance of the finished product. The strong cleansing properties can be put to advantageous use in the manufacture of degreasing solvents and compounds, pine oil and coal tar disinfectant, soap compounds, etc.

In recent publications, it was noted that soaps containing tall oil, with its rosin acid content of approximately 50 per cent, exerted great germicidal activity in the removal of transient and resident microbial flora. These conclusions were reached after extensive tests. This additional property of the refined tall oil soaps may be put to wide application in the manufacture and marketing of the disinfectant soap preparations.

After an extensive study of refined tall oil in its various aspects and applications as a raw material in the manufacture of soap, we can state without reservation that refined tall oil is a worthy member of the soap stock family.

Detergent Aid

A new product of Carbide & Carbon Chemical Corporation of New York City, called Tergitol Penetrant 4 Paste, is an aqueous gel consisting of 50 per cent of the sodium sulfate derivative of the higher synthetic alcohol, 7-ethyl-2-methyl-undecanol-4. It contains practically no inorganic salts or mutual solvents. The compound is suggested as a soapless detergent, since with addition of builders such as phosphates and silicates, its cleansing power can be made equal to that of the sulfates of the straight chain alcohols. The compound is said to enhance the activity of bactericides and to increase the efficiency of antiseptics from 4 to 10-fold. The solubility of the dry salt in water at 20°C. is about 4 per cent.

NEW SOAP MAKING PROCESSES

a review of recent developments in the technique of saponification

By Dr. Leopold Safrin

J. Eavenson & Sons, Division of Wilson and Company

PART II

THE method of saponification under diminished pressure can be found in the older literature under the description of Vacuum Saponification. Actually, this method has been devised for the recovery of glycerine only, because saponification is retarded under vacuum. Lorentz (25) suggested accelerating the reaction time by the use of superheated steam, and worked out a continuous process which operates under diminished atmospheric pressure. The fats and oils previously heated to about 250 to 300° F., and the alkali of about the same temperature, enter the operating chamber, containing a high-speed mixing device. According to Lorentz, practically instantaneous saponification occurs, and the mixture overflowing the sides of the mixing chamber, flows downward. At the same time, superheated steam entering the bottom of the operating chamber and passing upward in counter-current evaporates the volatile materials, including glycerine which are drawn off at the top of the reaction chamber and are condensed and collected in separate receptacles. In case the glycerides are not completely saponified, Lorentz provides a second chamber, heating the mixture to higher temperatures, or recycling the unsaponified material.

Lorentz's process has the advantage of relatively low temperatures and diminished pressures, but is at a disadvantage in the incompleteness of saponification. It is, however, superior to older vacuum saponification in its use of modern equipment and superheated steam for volatilizing the glycerine.

Conversion Agents Other Than Caustic

Some time ago the saponification of fats was investigated from the angle of utilization of cheap alkalis, sodium sulfide (26), sodium silicate, sodium carbonate, bi-carbonate (27), and sodium chloride, being suggested. The first four materials react with fatty acids, but produce very unsatisfactory results with glycerides, even under pressure. Their utilization has never been seriously considered for conversion of glycerides to soap.

Common salt, being one of the cheapest materials, was the subject of many experiments, especially for an electrolytic process. The basic idea advocated lately by Imhausen (28), Sandreczki (29), and Andrault (30), applies electrolysis to decompose salt, similar to sodium hydroxide manufacture, but uses the formed caustic immediately for saponification, and the excess salt for the graining out operation. The formed soap curds are removed continuously from the reaction and saponification chamber.

In practice, many side-reactions took place, and thus far this method has not achieved any practical value. The methods using indirect conversion have been much more successful.

Krebitz Process

Krebitz (31) found the practical solution for utilization of sodium carbonate, by converting the glycerides to calcium soap by means of lime, and reconversion of the lime soap with soda ash solution in the presence of salt to soap. This method has been used extensively for many years in

Central Europe, and may still be applied, where local conditions are favorable. The conversion of fats and oils to lime soap requires very little heat (90 to 950° C.), and once the reacting materials are emulsified, the formation of lime soap proceeds quickly and completely. The lumps of lime soap, ground to special fineness, are leached in counter-current flow in a twelve foot tower. The resulting glycerine is of extremely good color and quality. The lime soap is easily converted to soap by sodium carbonate in the presence of salt, and the soap, even from inferior fats, is of extremely good color and odor, suitable for toilet soap production.

Krebitz's process has the disadvantage of forming bulky calcium carbonate, which tends to absorb some of the soap, and can be calcinated only in special lime kilns.

Ammonium Soap Conversion

Since the days of Solvay, and his successful soda process, the reaction of ammonium soaps with common salt has been tried over and over again. The complete saponification of glycerides by ammonia is difficult, but has been claimed by Garelli (32). The conversion, commercially established in Italy and Austria, works in stages similar to Solvay's soda process. The ammonium soap being slightly soluble in water reacts with sodium chloride, forming soap and ammonium chloride. Due to ammonia losses of 8% on recycling, and 2% due to uncomplete conversion, this process has been abandoned. There is, however, still a chance for a comeback, should the low price of ammonia allow for the losses, and the ammonia

saponification of glycerides prove eventually successful.

Reesterification of Glycerides and Saponification of Esters

This process, based on reesterification of glycerides by means of alcohols (mainly methyl and ethyl alcohol), has been introduced to soap manufacturers by Bradshaw and Meuly of the Du Pont Company (33). It has been described by the inventors (34) in detail.

It has great potentialities for the fat refiner, as well as for the soap manufacturer, on account of excellent bleaching, refining, and distilling facilities. The interchange proceeds smoothly in the presence of about .5% free caustic alkali, practically water free fat and alcohol. The glycerine layer is formed very easily, if fats low in free fatty acids have been used. In case a higher percentage of fatty acids is present, in addition to the old methods (distillation, refining), a methylation with methylation agents has been devised by the inventors.

This method is of special interest for the utilization of low grade fats and oils. The methyl esters are easy to fractionate and could be sold to the soap maker in individual fractions, ideal for the future "tailor-made" products. The DuPont process has definite advantage over the long known acid interchange, or the expensive alkali-alcoholate conversion. The methyl esters drop most of the impurities to the glycerine layer, which, in turn, is easily refined and concentrated. The saponification, in the presence of liberated alcohol, is complete and rapid. The toxic, but low boiling methyl alcohol is easily removed from the soap to an amount below .1%, and the resulting soap, due to the low temperature treatment, is excellent in color and very stable. Even soaps which are manufactured in the semi-boiled fashion (without formation of nigre), are of very good quality, and suitable for toilet soap and flakes manufacture. This process may be advantageously adopted on a continuous, as well as on the batch basis. The steam and power requirements are relatively very low, and the process at present

glycerine prices is economical, even if the methyl alcohol is not completely recovered.

DuPont's process has passed practical tests successfully, and it will certainly be found in the front row after the war.

Outlook

The review of industrial saponification of glycerides leads to an assumption that the old soap boiling process will be thoroughly revised and improved in the post-war era. The main efforts are aimed at a rapid, complete saponification, and a quicker and better recovery of glycerine. The path of progress will naturally depend on market conditions, and a low price on glycerine may have some delaying action on new investments. The saponification of glycerides has a potential competitor in the conversion of fatty acids to soap, especially on a continuous basis for the production of powders and detergents.

Almost every new process will require thorough engineering supervision, and frequent laboratory control. Which of the new methods will predominate in the near future is hard to foretell. The methyl ester process opens new aspects on "tailor-made" soap, and gives the smaller and middle size manufacturer a chance to streamline his production. The centrifuge may cut down the settling time of spent lyes from hours to minutes, and pressure saponification is liable to supersede the old-fashioned boiling, if synchronized with modern spraying equipment.

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Photo by John Loughlin

The Way It Looks *in* *Washington*

C. H. JENKINS

WASHINGTON, D. C.—The latest development from the Washington scene this month is the anticipated revision of WFO-42. This order, which governs fat and oil consumption by a whole series of unrelated industrial users, has been scheduled for revision for several months and the revision will probably have been announced by the time this issue is in the mails. The general plan seems to be to break the order up into a series of orders, separating control over this diverse group of fat and oil users so that the entire list will not be subjected to a change when it is discovered that one particular group faces a situation which needs correction. Thus the new orders will probably treat soap separately from edible fats and from oils used in paint and varnish, printing ink, linoleum, etc.

Other developments on the Washington scene this month include easing of restrictions on wool fat, the placing of synthetic detergents under allocation, further revision of OPA ceiling prices on used shipping containers, and a continuance of interest by the WFA in buying for export the maximum quantity of soap which the soap industry can be stimulated into producing.

Ask More Yellow Laundry Soap

At the recent meeting in Washington of the WFA's Soap and Glycerine Industry Advisory Committee, a formal request to the soap industry for increased production of yellow laundry soap was made by the War Department. Army officials indicated that the Army needs three times the amount it has been getting to meet requirements of the military and to supply immediate relief needs of liberated areas. Members of the industry committee assured the War Department and the WFA that they would make every effort to meet the greatly expanded demand by expanding production immediately. Peak production levels were expected to be reached by October and to be maintained there as long as necessary.

The WFA reported to the advisory committee on the fat and oil supply outlook for the coming year. On the basis of current use, the soap industry is expected to need approximately 2,400,000,000 pounds of fats and oils during the year ending June 30, 1945. A WFA spokesman indicated that these requirements of the soap industry could in all probability be met. W. F. Patton of the WFA Office of Materials and Facilities, re-

porting on the container situation, said that the soap industry has made changes which will save about 7,500 tons of container board annually. He indicated, however, that the balance between supply and demand is still extremely precarious. B. M. Belcher of the WPB reported to the committee on the rosin situation, indicating that the labor shortage is largely responsible for the current tight situation in rosin. He assured the committee that the rosin needs of the soap industry would be met so far as possible.

WFA to Buy Blue Mottled Soap

The WFA announced last month that it contemplates purchase through the Commodity Credit Corporation of blue-streaked and mottled laundry soap in 5-pound bars. The soap is to be packed 10 bars to the case and is to conform in general with the provisions of federal specification P-S-591a, with the following exceptions. Ultramarine is to be added to the blue-streaked soap and compliance with maximum glycerine content specification is not required. On the blue mottled soap the following maximum percentages have been fixed: moisture 42 per cent; sum of free alkali and salt insoluble in alcohol 6 per cent; free alkali 0.5 per cent; free acid 0.5 per

cent; matter (including blue) insoluble in water 2.5 per cent; salt 1 per cent; rosin none and a minimum of 50 per cent anhydrous soap. In the computation provided for in paragraph E-2, 42 per cent is to be substituted for 36 per cent. Glycerine maximum need not be met.

It is believed that this blue mottled and streaked soap is being bought by the WFA for shipment to Porto Rico and Central and South America. The WFA indicated that preference would be given to bidders who could guarantee earliest delivery dates. All offers were to be submitted to the Procurement and Price Support Branch, Office of Distribution, War Food Administration, Washington 25, D. C. The date for original submission of offers expired on September 11, but in view of previous experience with such requests for bids it would not be at all surprising to find later bids welcomed.

Seek Soap for UNRRA

Soap makers have also been queried over recent weeks as to possible types and quantities of soap they might supply to the United Nations Relief and Rehabilitation Administration, without interfering with the deliveries of soap they are required to make on government and army and navy contracts. The WFA, which has general charge of the relief soap program, seems to understand quite clearly that there is very little prospect of additional yellow laundry bar production above present contract levels, but they are hopeful that some additional kettle capacity may be found in the industry so that crutched kettle soap or laundry soap base might be supplied. They have in mind shipping the soap in solid form packed in barrels to conserve the meager supply of shipping cartons.

Wool Fat Restrictions Eased

The War Food Administration announced an amendment to WFO-76 on September 12, making wool fat more readily available to all users except manufacturers of cosmetics (including toilet soaps) non-military fur dressings and mechanics' hand soaps. The new amendment, effective October

1, will make it possible for any user except the above to secure a priority on delivery simply by certifying to his supplier that quantities thus obtained will not be employed for the above purposes. Inventories will be limited to a 30-day supply based on current operations, and suppliers will be required to fill all certified orders before filling orders for the less essential uses.

Synthetic Detergents on Allocation

A number of synthetic detergents were placed under allocation by the War Production Board effective October 1. The small-order exemption without a use certificate has been fixed at 100 pounds per month. Detergents affected include the following: "Nacconols" NRSF, HG, NRG and NR, "Santomerses" No. 1, No. 3 and No. 55, "M.P." 189, 189SX and 646, "Ul-

trawets" A, 40A and 60A, "Igepons" T and TD, "Synthetic Detergent 92" and "Neutronyx 33."

To Revise Container Price Ceilings

OPA's order covering the pricing of reused containers has recently undergone another revision. As a result of a series of conferences he'd in New York, Boston and Chicago, a decision was reached to increase prices for reusable containers of various types so as to make their recovery more attractive to used container dealers.

Abandon Chi. Container Program

The container re-use program which the Soap Association has been sponsoring in the Chicago area for the past six or more months was discontinued as of the first of October. A

(Turn to Page 70)

Soapers Fat Use Drops

CONSUMPTION of fats and oils by the soap industry during the second quarter of 1944 dropped to 470,737,000 lbs. from the quantity of 507,705,000 lbs. consumed in the first quarter. Soapers used an additional thirty million pounds of tallow in the second quarter, equalled first quarter use of grease, but consumption of almost every other fat and oil going to the soap kettle registered a drop. On tallow the second quarter total was 235,000,000 lbs. as against 205,000,000 lbs. in the first quarter. On grease the total for each quarter was in the neighborhood of 125,000,000 lbs.

Consumption of lard in soap making which hit a peak of 55,000,000 lbs. in the first 1944 quarter, dropped off to 36,000,000 lbs. in the second quarter. Use of coconut oil, crude and refined, dropped to a total of 32,000,000 lbs. in the second quarter as compared with 42,000,000 lbs. in the first quarter. Mild declines were also noted in use of palm oil and fish oil, while use of babassu oil dropped from 7,000,000 lbs. in the first quarter to less than a million and a half pounds in the second quarter. Figures on consumption of the entire list of

fats and oils by soap makers during the second quarter of 1944 are given below in thousands of pounds:

VEGETABLE OILS	
Cottonseed, crude	15
Cottonseed, refined	103
Peanut, crude or virgin	313
Peanut, refined	53
Coconut, crude	19,617
Coconut, refined	12,547
Corn, crude	172
Corn, refined	77
Soybean, crude	393
Soybean, refined	361
Olive, edible	18
Olive, inedible	61
Olive, sulphur oil or olive foots	541
Palm kernel, crude	—
Palm kernel, refined	—
Palm, crude	7,044
Palm, refined	118
Babassu, crude	1,284
Babassu, refined	259
Linseed	611
Castor No. 1, crude	2,781
Castor No. 3, crude	2,502
Castor, dehydrated	100
Castor, sulphonated	92
Other vegetable	1,241
ANIMAL FATS	
Lard, rendered (including lard and rendered pork fat)	36,391
Oleo oil	895
Tallow, edible	13,197
Tallow, inedible	235,744
Neat's-foot oil	8
FISH AND MARINE MAMMAL OILS	
Marine mammal oils	1
Fish oil	8,641
GREASES	
Greases, other than wool	125,557
Wool grease	—



Chem. Salesmen End Golf Season

NEITHER wind (and there was plenty of it), nor rain, nor darkness of a mid-September afternoon, nor combination of all three, could stop about 250 members of the Chemical Salesmen's Association from showing up for golf and dinner at Pomonok Country Club, Flushing, the day of the east coast's big hurricane, Sept. 14. Although a number of the golfers started early enough in the day to miss the rain and wind, several foursomes, including that of H. R. Miller, winner of members' low gross "Flight A," who had an 81; Tom Morgan and Ed Bush, runners-up, tied

with 83's, and Charles Alexander, played through the rain and wind to finish the complete eighteen holes.

H. R. Miller, of Hercules Powder Co., by shooting an 81, gained a third leg on and permanent possession of the big silver C.S.A. cup, which was a gift of the Chemists' Club, New York. Following dinner and just before the entertainment, both of which had to be conducted by candlelight, when the storm caused a breakdown in electrical service, \$250 in prizes were awarded.

Announcement was made that the annual Christmas party of the

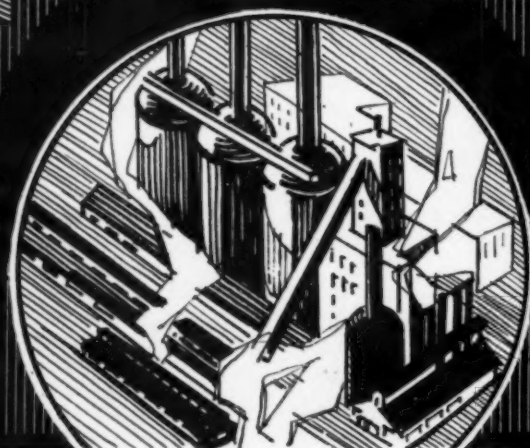
association will be held at the Hotel Roosevelt, N. Y., Dec. 14.

The list of winner at the Pomonok outing follows:

Members low gross—	
"Flight A".....	H. R. Miller
Members low net—	
"Flight A".....	Robert Quinn
Members low gross—	
"Flight B".....	G. S. Ziegler
Members low net—	
"Flight B".....	F. C. Whitrock
Members low gross—	
"Flight C".....	H. G. Bercow
Members low net—	
"Flight B".....	C. T. Lipscomb
Gest low gross.....	J. B. Eakins
Guest low net.....	A. J. Biel
Members Kickers.....	James McInnes
Members Kickers.....	O. A. Sargent
Guest Kicker.....	Fred Hintz
Guest Kicker.....	Gene McCauliff

TURNER CHEMICALS

CAUSTIC SODA
PERSULPHATE OF POTASH
PERSULPHATE OF AMMONIA



JOSEPH TURNER & COMPANY

RIDGEFIELD, NEW JERSEY

83 Exchange Place, Providence, R. I.

435 N. Michigan Ave., Chicago 11, Ill.

Charge Illegal Fat and Oil Use

Cleveland Soap Mfg. Co., Cleveland, has been charged by the War Food Administration with illegal use of more than two and a quarter million pounds of fats and oils in excess of its quota under WFO-42. A criminal action has been brought against Michael Weil and Isadore Wasserman, co-partners, in the Chicago district court by Donald C. Miller, U. S. Attorney, according to an announcement by J. M. Mehl, chief of the compliance branch of WFA.

Miller Joins Crossland as V. P.

J. L. Miller, formerly director of sales and for eight years with Andrew Jergens Co., Cincinnati, and prior to that sales and advertising manager for Rex Co., which company he was connected with for eight years, recently joined Crossland Mfg. Co., Toledo, as vice-president. He will be located at the New York headquarters of this newly formed firm, which was organized recently to manufacture and market "Ya-De," a mothproofing spray made on a German formula released by the Alien Property Custodian. "Ya-De" is being sold to the consumer on a five-year guarantee basis. The guarantee provides for the manufacturer to repair, replace or pay for any moth damage resulting to any article within five years after one spraying with "Ya-De."

Boston BIMS Golf Oct. 18

BIMS of Boston will hold their final golf tournament and autumn outing at the Charles River Country Club on October 18. Dinner and award of prizes will be held following the golf tournament at the club. A delegation from New York headed by Martin Schultes of Hewitt Soap Co. and New York chairman will attend the outing. Reservations should be made as early as possible with Pete Niles, 206 State St., Boston. Mr. Niles

who is associated with Fritzsche Brothers, Inc. is Boston chairman and E. E. Aldrich of United Drug is treasurer.

Mrs. Lottie M. Peet Dies

Mrs. Lottie May Peet, widow of one of the founders of Peet Brothers Soap Co., later merged with Colgate-Palmolive-Peet Co., died in Los Angeles, September 18, at the age of 82. She is survived by a son, A. W. Peet, honorary chairman of the company's board of directors; two grandsons and two granddaughters.

Textile Convention Oct. 12-14

The annual convention of the American Association of Textile Chemists and Colorists will be held at the Hotel Claridge, Atlantic City, N. J., October 12, 13 and 14. The Philadelphia section of the group is in charge of the program with Charles A. Siebert as program chairman.

A series of posters, of which the one shown below is typical, are being used in the plant of the Glenn L. Martin-Nebraska Company at Omaha as a part of its campaign to reduce absenteeism due to industrial dermatoses. Emphasis is placed on the part which cleanliness plays in prevention of such troubles.



Soap Assn. Cited by ATAE

The Association of American Soap & Glycerine Producers is being honored for the second time by the American Trade Association Executives for distinguished service to industry and the public. The award to the soap association was based on its sponsorship and conduct of the National Fat Salvage Plan and was announced by Secretary of Commerce Jesse Jones as chairman of the Jury of Awards. The previous citation several years back was for the association's sponsorship of national hygiene through Cleanliness Institute. Formal presentation of the award, one of eight "honorable mentions," will be made at the annual meeting of ATAE in November.

West Coast Soaper Dies

Pellegrino Bonfiglio, retired soap and olive oil manufacturer, died September 12, at his home at 718 North Croft Street, Los Angeles. He was 74 years old. Mr. Bonfiglio is survived by two sons: Dr. John Bonfiglio and Sam Bonfiglio; and a daughter, Yolanda Bonfiglio.

Cudahy Building Plant Addition

Cudahy Packing Co. is constructing an addition to its chemical unit at East Chicago, Ind., but due to war restrictions details of the project were withheld.

Wally Bush Recovered

Wally A. Bush, sales manager of Ungerer & Co., New York, has completed recovery at his home in Essex Fells, N. J., from a long illness following an operation for a ruptured appendix. Mr. Bush was confined for three months to the Mountainside Hospital at Montclair, N. J., following an emergency operation early in June. He anticipates returning regularly to his desk at Ungerer & Co. in the near future.

Soap Bids Asked by WFA

The War Food Administration through the Commodity Credit Corporation is asking for bids on the following types and quantities of soap: 875,000 pounds of carbollic soap (creosylic acid odor) in four ounce cakes; 1,125,000 pounds of laundry soap in ten ounce cakes; 117,875 pounds of soap flakes in five ounce packets or cartons; 62,500 pounds of soap flakes in 12½ ounce packets or cartons; 253,125 pounds of soap powder in nine ounce packets or cartons; 90,000 pounds of soap powder in 24 ounce packets or cartons; 175,000 pounds of shaving sticks in one ounce size; 400 pounds of shaving sticks in two ounce size; 50,000 pounds of shaving cream in one ounce tubes and 35,000 pounds of 2½ ounce tubes.

Added Cans for Handpaste

Manufacturers of soap paste (including paste cleaners) have been given an increase in quota on cans for the remainder of 1944. For the balance of 1944 they may use "blackplate rejects" for cans to the extent of 25 per cent of their use of tinplate, terneplate, and blackplate for such purpose in 1942; and for the year 1945, they may use "blackplate rejects" to the extent of 50 per cent of 1942 use. These quotas are in addition to permitted use of "blackplate" to the extent of 125 per cent of 1942 use of tinplate, terneplate, and blackplate. The minimum can size remains 10 ounces for both regular and extra quota.

Offers Importing Services

Standard Synthetics, Inc., distillers of essential oils and manufacturers of aromatics, New York, are offering their services as direct importers of essential oils and aromatics from those producing areas formerly occupied by the enemy but lately liberated by Allied forces. As soon as it is possible to resume trade with these producing centers, Standard Synthetics will be in a position to offer their essential oils or aromatics, a company release states. Contrary to popular notion, there is no evidence that our allies have been any quicker than the

United States in capitalizing on the products for export from these freed areas, the Standard Synthetics announcement states.

Chicago Soap Bowlers Meet

The bowling League of the Chicago Perfumery, Soap and Extract Association was initiated Sept. 12, with a luncheon at the Bismarck Hotel. Following the luncheon a bowling motion picture was shown to help beginners and to improve the technique of experienced bowlers. Tournaments were scheduled to start Oct. 5, at the Illinois Athletic Club, and are under the supervision of chairman John A. A. Scott of Merck & Co. They will continue for 28 weeks.

Terminate Metasilicate Allocation

Allocation of sodium metasilicate was terminated by the WPB on September 26. Supplies are now said to be adequate to take care of current demand.

Emery Opens Phila. Office

Emery Industries, Inc., manufacturers of fatty acids, Cincinnati, recently opened a new branch sales office and warehouse at 401 N. Broad St., Philadelphia. M. Jay Veenstra has been named district chemical sales manager in charge of the new office. Stocks of Emery products will be maintained in Philadelphia for immediate shipment.

Houghton Moves N. Y. Office

E. F. Houghton & Co. have given up their former New York offices at 421 Seventh Ave., and have combined them with their office and warehouse at 135 Hoboken Ave., Jersey City.

Brown Fills Pittsburgh Vacancy

Clarence M. Brown, Philadelphia attorney, has just been recalled as chairman of Pittsburgh Plate Glass Co. to fill the post left vacant Aug. 13, by the sudden death of H. S. Wherrett. Leland Hazard, general counsel, was elected vice-president, H. B. Higgins, president, was named chairman of the executive committee and H. B. Brown, secretary, was elected to the board.

C-P-P to Alter Claims

Colgate-Palmolive-Peet Co., Jersey City, N. J., has agreed to stop using advertisements which the Federal Trade Commission said "misrepresent the composition, properties and effectiveness" of certain soaps, dentifrices and shaving creams, the Commission announced early last month. The FTC said it issued a complaint last February 3, in which it charged the corporation with "using unfair and deceptive acts and practices in connection with the sale of Palmolive soap, Colgate dental cream, Colgate tooth powder, Palmolive lather cream, Palmolive brushless shave cream and concentrated Supersuds." C-P-P, the Commission said, agrees to stop claiming, among other things, that any benefit to or improvement in the appearance of the skin consequent to the use of Palmolive soap and water is due to anything other than its cleansing properties. In regard to its dentifrices, Colgate-Palmolive-Peet, according to the FTC, has agreed to stop representing that the use of Colgate dental cream will impart to the teeth any radiance, brilliance, sparkle or like property beyond that inherent in the teeth of the individual user; or that tooth decay will be prevented by the use of the dental cream.

New Gourielli Men's Kit

A new service kit, containing a shave stick, mouth wash and foot stick in a gift box, to retail for \$2.50, has just been introduced by The House of Gourielli, New York. The kit, 5¼" by 4", is of mailable size and is suggested as a gift for men in the service.

India Firm Seeks Literature

Industrial Machinery Supply Co., dealers in machinery, equipment and appliances for the soap, chemical, pharmaceutical and other allied industries, Bombay, India, are seeking from United States' manufacturers of soap and toilet soap machinery, and oil refining and hydrogenation plant manufacturers, all available literature and prices on these items. The company's Bombay address is Bhatia Building, 203 Hornby Road, Bombay 1.

Synthetic Quinine

— NEW MEDICAL TRIUMPH

WHEN TWO young scientists recently succeeded in synthesizing quinine for the first time, they accomplished what other scientists had been trying to do for more than a hundred years.

To these two young men the world owes a great debt. For today virtually all sources of natural quinine are in the hands of the enemy, and this development offers new hope in the constant battle against malaria in many lands throughout the globe.

But to those scientists who strove long and tirelessly in the past goes much credit, too. For their efforts laid the groundwork...saved precious time and labor for these modern researchers...provided that priceless "Margin of Experience" upon which the final success was built.

. . .

In every field of science, commerce and industry the "Margin of Experience" proves again and again a vital factor to success. Niagara offers it in the field of electro-chemical products. For Niagara has pioneered constantly in the development, improvement and



adaptation to new uses of Liquid Chlorine, Caustic Potash, Caustic Soda and Carbonate of Potash. Rely on Niagara's "Margin of Experience" for greater advantage in the use of these products.

AN ESSENTIAL PART OF AMERICA'S GREAT CHEMICAL ENTERPRISE



Niagara ALKALI COMPANY
60 East 42nd Street, New York 17, N. Y.
CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE
CARBONATE OF POTASH • LIQUID CHLORINE

ADVENTURES IN THE "MARGIN OF EXPERIENCE"

NEUTROLEUM

**MAKES BAD ODORS
VANISH!**

AMONG TODAY'S USERS OF NEUTROLEUM ARE MANUFACTURERS OF:

FLY SPRAYS
INSECTICIDES
EMBALMING FLUIDS
PHOTO ENGRAVING SUPPLIES
PRINTING INKS
PRESSROOM SPECIALTIES
SOAPS
LEATHERS
PAINTS
PENETRATING AND CUTTING OILS
TEXTILE CHEMICALS
HOSPITAL DEODORANTS
STARCH
BATH PRODUCTS
SULPHONATED OIL PRODUCTS
WAXES
JANITORS' SUPPLIES
LABORATORY SUPPLIES
DRAWING COMPOUNDS FOR METAL
WORK
SHOE POLISHES
DENTAL SUPPLIES
GLUES
METAL CLEANING COMPOUNDS
OILS AND GREASES
... and MANY OTHERS

TODAY, bad odors are stealing off with many a manufacturer's profits . . . are actually robbing him of sales. We contend that this waste imposed upon numerous technical products by the repellent character of certain basic constituents, is a needless loss and that it can be overcome completely and economically by this widely used, time-proven odor neutralizer . . . NEUTROLEUM. A powerful aromatic created by our laboratories for just this purpose, NEUTROLEUM makes quick, permanent dispatch of the most persistent and objectionable odors.

A glance at the accompanying list of applications representing some of the uses to which NEUTROLEUM is being successfully applied, is clearly indicative of its practicability as a deodorant for technical use. We believe we can prove this to you conclusively if you will send us a sample of your product which will be returned to you effectively deodorized as a demonstration of what NEUTROLEUM can do toward eliminating this needless handicap to your product's sales.



FRITZSCHE BROTHERS, Inc.
PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS
BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D.F.
FACTORIES AT ELFTON, W. I. AND SULLY, IRELAND



Report 2nd Quarter Rosin Data

The quarterly Naval Stores Report for the second 1944 quarter has just been issued by the United States Department of Agriculture, giving statistics on production, consumption and stocks of rosin and turpentine. Production of rosin during the second quarter of 1944 totaled 341,799 520-lb. drums, of which 200,706 drums were gum rosin and 141,093 drums wood rosin. This compares with 412,650 drums produced in the corresponding 1943 quarter, of which 231,508 drums were gum and 181,142 drums wood.

Soap makers consumed 94,888 drums of rosin in the second 1944 quarter as against 46,612 drums in the second quarter of 1943. Manufacturers of insecticides and disinfectants used 2,086 drums in the 1944 quarter as compared with 1,394 in the pre-

New York BIMS End Their 1944 Golf Season

The snapshots above are from the final 1944 golf outing of the New York BIMS which was held at Wheatley Hills Golf Club, East Williston, L. I., late in August.

vious year's second quarter. Carryover stocks of rosin as of June 30, 1944, totaled 711,777 drums, of which 570,495 were gum rosin and 141,282 drums wood rosin. This compares with a carryover position as of June 30, 1943, of 1,201,743 drums, of which 1,023,749 drums were gum and 177,994 drums wood.

Packaging Conference Nov. 1, 2

The annual meeting of the Packaging Institute will be held Nov. 1 and 2, at the Hotel New Yorker, New York City.

On Dairy Plant Cleaners

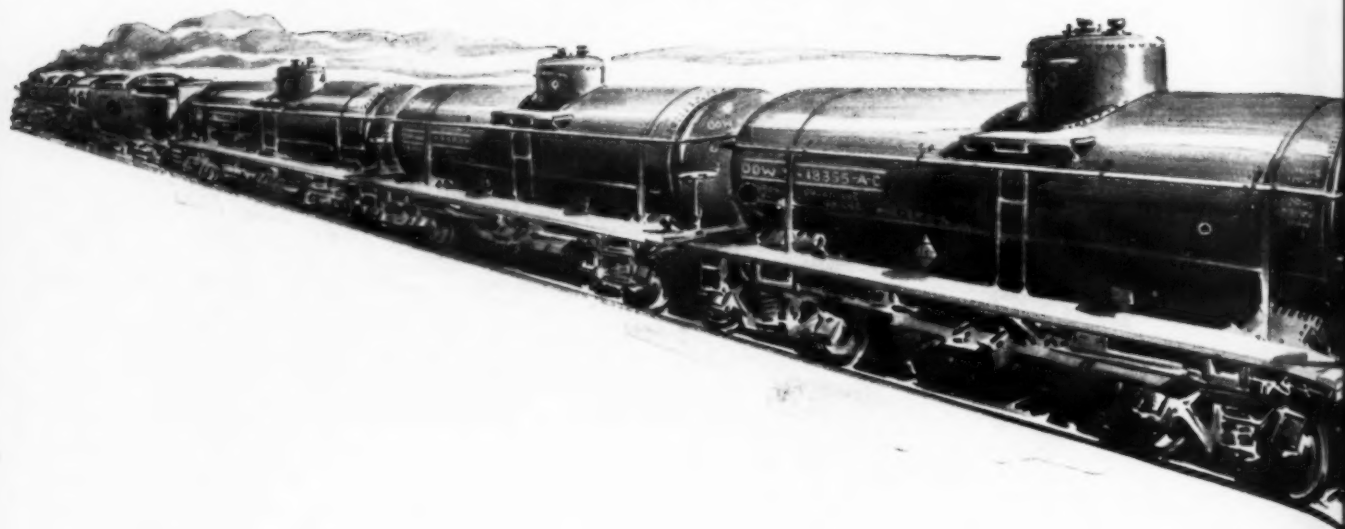
Perry E. Piper, Procurement Manager of the Snow and Palmer Division, Beatrice Creamery Co., Bloomington, Ill., is the author of an article entitled, "Practical Aspects of Dairy Plant Cleaning" which appears in the September issue of *The Milk Dealer*, published by the Olsen Publishing Co., Milwaukee. Mr. Piper discusses the characteristics and requirements for various types of dairy cleaning compounds, selection of cleaners, water supply, removal of lime deposits, wetting agents, and other factors.

Betty Coed Cosmetics Founded

Betty Coed Cosmetics Co., is the firm name under which David Belinkoff, Sam Rosenberg and Betty Mandel have published a certificate that they are conducting business at 948 South Santee Street, Los Angeles.



DOW ANILINE OIL



. . from one of the world's principal suppliers

This important industrial chemical is available for prompt shipment from Dow—a long established and dependable source. Shipments are made in tank car lots and in 55- and 110-gallon drums. Technical service pertaining to the use of Dow Aniline Oil or any of the other important Dow Industrial Chemicals listed below is promptly available to industry.

DOW INDUSTRIAL CHEMICALS

Caustic Soda • Aniline Oils • Phenol • Glycols • Hydrochloric Acid • Chlorides • Epsom Salt • and more than 75 others.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston
San Francisco • Los Angeles • Seattle



CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

Plan 2nd \$1,000,000 Fat Drive

The American Fat Salvage Committee launched its new \$1,000,000 publicity and advertising campaign to stimulate collection of used fats by housewives early in October. First copy featured a statement by Lee Marshall, director of distribution of the WFA that "victories in Europe aggravate rather than ease our problem of maintaining an adequate supply of fats and oils." Wilder Breckenridge of Kenyon & Eckhardt, New York, manager of the campaign, has reported recently that in the first seven months of 1944 collections of used household fats totaled 112,000,000 pounds, or 115 per cent more than the 52,000,000 pounds collected in the corresponding seven months of 1943. He reported that over the past two months an expected seasonal slump in collections has been noted, which has been aggravated by meat shortages, extremely hot weather and the suspension of advertising to allow the committee to catch up with its budget. Reappearance of advertising support is expected to stimulate collections over coming months.

UNRRA Hears Soap Report

The Combined Food Board reported, Sept. 19, to the Council of United Nations Relief and Rehabilitation Administration meeting in Montreal that "it is . . . of the utmost importance that facilities (i.e., for oil seed crushing, hydrogenation and soap making) in the liberated areas themselves be put into operation at the earliest opportunity." This suggestion is made against the background of a statement appearing earlier in the report: "In addition to the problem of the availability of raw materials, the production of soap for liberated territories presents difficulties of processing capacity." The report then goes on to point out: "Laundry soap is the principal type desired since it is the most economical use of fats for soap but the facilities for its production are limited. This has been the main obstacle in the provision of requirements of soap presented by the military authorities, but it is believed that this and other obstacles have been surmounted and that limited requirements

as they arise can be met. Moreover, there is reason to hope that facilities for production thus instituted will continue to be available in the months following the military period. This, however, may present labor and other difficulties in the producing countries . . ." The statement then goes on to point out how much more desirable it would be for the liberated countries themselves to produce their own soap, etc.

Chicago Chem. Show Nov. 15-19

Dr. Roy C. Newton, vice president and director of research for Swift & Co., will be one of the speakers on the luncheon program which will mark the opening of the third biennial National Chemical Exposition in Chicago, Nov. 15 to 19. With two other noted scientists, Dr. Newton will talk on "New Research Developments in Industry," during the joint luncheon of members of the Chicago section of the American Chemical Society and the Chicago Association of Commerce, at the Palmer House, Nov. 15.

At the Coliseum, where this year's exposition is to be staged, thousands of patents and patent applications, as well as abstracts, vested in the Alien Property Custodian, will be available for examination and representatives of the Custodian's office will be on hand for consultation regarding licensing procedure. Still another new feature of the exposition will be a series of escorted tours for high school and college students to interest them in chemistry as a career.

Miles Joins Compagnie Parento

Frank J. M. Miles recently joined Compagnie Parento, Inc., New York, as perfumer in charge of research and development. Before joining Compagnie Parento, he was with Melba, Houbigant and Cheramy. He was vice-president in charge of manufacturing with the latter firm. Mr. Miles was also formerly connected with Colgate and Co., where he supervised manufacturing until he established research laboratories in California as consultant to several of the leading perfume houses and for the study of domestic flower and essential oil production.

Oil Chemists Meet Oct. 25-27

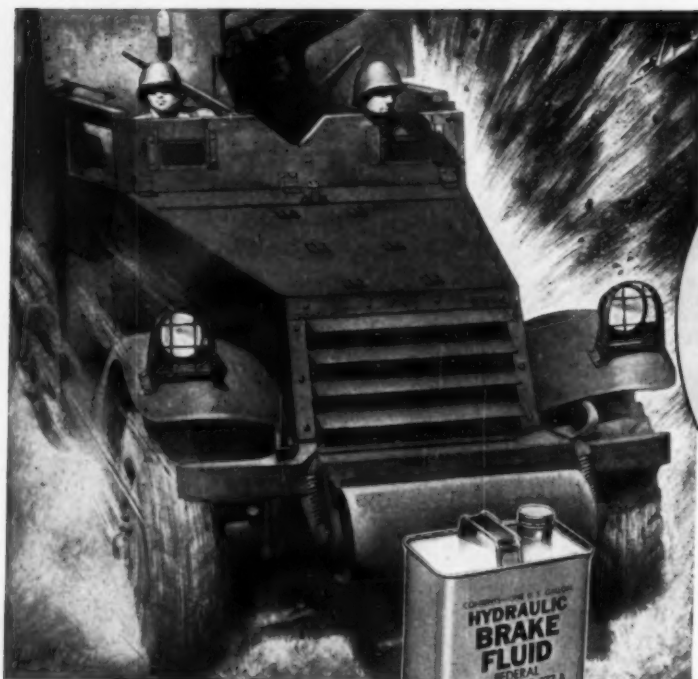
More than thirty papers, including a symposium on soap, will be presented at the 18th annual fall meeting and war conference of the American Oil Chemists' Society at the Hotel La Salle, Chicago, Oct. 25-27, according to Dr. W. B. Hendrey, program chairman. Dr. J. J. Vollertsen, of Armour & Co., Chicago, is general chairman of the meeting. Presiding officer will be Dr. Klare S. Markley of the Southern Regional Research laboratory, New Orleans, who is president of the society. F. H. Lehberg, deputy administrator of oils and fats for the Canadian government, will discuss the oil and fat situation in Canada from the points of view of: commercial statistics and technical aspects. The American side of the story will be told by Dr. Donald D. Keyes, new director of the Office of Production Research and Development in Washington. In addition to symposia on soap and drying oils, there will be general topics covering composition of fats, analytical determinations, separation of fatty acids by liquid-liquid counter-current extraction and stability of fats.

Mathieson Ammonia Plant

Mathieson Alkali Works, Inc., New York, has just announced that production of ammonia from natural gas has begun at a new Lake Charles, La. plant—said to be one of the two largest in the country—operated under lease by Mathieson. The plant was built by the Defense Plant Corporation and, at the present time, is fully engaged in war production. After the war, the Mathieson release states, the plant is expected to be used for turning out ammonia to manufacture chemical fertilizers for Southern farmers and anhydrous ammonia for refrigeration. In addition to ammonia, Mathieson produces caustic soda, soda ash and synthetic salt cake at Lake Charles.

Backs New Air Show

The West Coast Soap Co., Oakland, is sponsoring a new half-hour dramatic series, "Opportunity Theatre" to publicize its "Pow Wow Cleanser." A 52-week contract has been signed.



Brake Fluid puts on "Battle Dress"

EVER since the introduction of hydraulic brakes, the cans in which Lockheed Hydraulic Brake Fluid is packed have been a familiar sight to American motorists.

But now, for service with the fighting forces, Lockheed Hydraulic Brake Fluid has donned "battle dress" . . . and is being shipped in olive drab containers for use in jeeps, command cars, and other motor vehicles.

The cans look entirely different . . . but they are the same in one important respect. For they are both made with the same care . . . by the same Crown organization! For as Crown served the Wagner Electric Corporation of St. Louis in days of peace, Crown serves them now when so much of their output of Lockheed Hydraulic Brake Fluid goes to war!

CROWN CAN COMPANY
NEW YORK • PHILADELPHIA
Division of Crown Cork and Seal Company
BALTIMORE, MD.



CROWN CAN

BIDS AND AWARDS

GPO Liquid Soap Bids

Among the bidders in a recent opening for miscellaneous supplies by the Government Printing Office, Washington, D. C., on 2,200 gallons of liquid soap were: Chemical Manufacturing and Distributing Co., Easton, Pa., 37c a gallon; Harley Soap Co., Philadelphia, 34c; Procter & Gamble Distributing Co., Cincinnati, 45c; Du-Rite Chemical Co., Brentwood, Md., 34.9c; Crystal Soap & Chemical Co., Philadelphia, 31.23c; Penetone Corp., Tenafly, N. J., 35c; R. M. Hollingshead Corp., Camden, N. J., 36c; and Ampion Corp., Long Island City, N. Y., 35c a gallon.

Marine Castile Soap Bids

In a recent opening for miscellaneous supplies by the Marine Corps, Washington, D. C., Harley Soap Co., Philadelphia, entered a bid of 15.5c on 60,000 pounds of castile soap. The only other bidder in the opening, which called for two items, each amounting to 60,000 pounds of castile soap, was Industrial Distributors, New York, who entered a bid of 14.8c on the same item as Harley.

Hollingshead Low on Wax Bids

R. M. Hollingshead Corp., Camden, N. J., submitted a low bid of 59c on 6,000 gallons of liquid wax in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C. Among the other bidders were: Windsor Wax Co., Hoboken, N. J., 69c a gallon; Breinig Bros., Hoboken, N. J., \$1.19; Fuld Bros., Baltimore, 66c; and Oil Specialties & Refining Co., Brooklyn, 64.92c.

Navy Toilet Bowl Cleaner Bids

Among the bidders in a recent opening for miscellaneous supplies by the Navy Department Bureau of Supplies, Washington, D. C., on 100 twenty-ounce cans of toilet bowl cleaning compounds were: Barton

Chemical Co., Chicago, 9c.; R. M. Hollingshead Corp., Camden, N. J., 11.5c; Hygenic Products Co., Canton, O., \$1.90 per case of 12, and West Disinfecting Co., Long Island City, N. Y., 17c.

Dry Cleaning Solvent Bids

The following bids were announced in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, on 2,000 gallons of clear, dry cleaning fluid solvent; Motolene Co., Long Island City, N. Y., 16.9c, including 36 returnable drums at \$1 each; Air Pilot Oil Co., Secaucus, N. J., 18c, including 37 returnable drums at 50c each; Gulf Oil Corp., New York, 18c, including cost of drums, which will be repurchased at OPA maximum price; Paragon Oil Co., Brooklyn, 18.75c, including 40 returnable drums at \$1 each; Socony-Vacuum Oil Co., New York, 20.5c, including 40 returnable drums at \$4 each; Shell Oil Co., Jackson Heights, N. Y., 18c, plus deposit on 38 returnable drums at \$4 each.

Indian Service Misc. Awards

The following awards have been announced in recent openings for miscellaneous supplies by the Indian Service of the U. S. Department of the Interior, Washington, D. C.: Pittsburgh Chemical Labs., Pittsburgh, Pa., 9,050 pounds of scouring powder in 50-pound boxes, \$3.14, 4,160 cakes of grit soap, 4c; Cadillac Chemical Co., Detroit, 58,610 pounds of soap chips in 50-pound cartons, 11.5c, 179,981 pounds of soap chips in barrels, 11.5c for 127,330 pounds and 49,000 pounds at 10.69c, on 18,000 pounds of soap powder in 50-pound wood boxes, 4.8c for 11,500 pounds and 32,601 pounds of laundry soda in barrels, 1.7c; Industrial Distributors, New York, 3,273 pounds of scouring powder in shaker top containers, 4c, and 708 cartons of sodium fluoride, 18c; Colgate-Palmolive-Peet Co., Berkeley, Calif., on

103,875 pounds of laundry soap, 5.4c for 49,248 pounds and 6.01c for 47,552 pounds of laundry soap, and on 75,825 pounds of toilet soap, 10.42c for 49,932 pounds; North Coast Chemical & Soap Works, Seattle, on 103,825 pounds of toilet soap, 6.73c for 3,410 pounds, and on 33,900 pounds of soap powder in barrels, 4c for 19,050 pounds; Hunnewell Soap Co., Cincinnati, on 33,900 pounds of soap powder in barrels, 3.75c for 14,850 pounds; Pacific Chemical Co., Los Angeles, 702 dozen cans of scouring powder, 7.3c a pound, on 6,850 pounds of scouring powder in barrels, 3.7c for 3,250 pounds, and on 18,000 pounds of soap powder in wood boxes; Globe Grocery Co., Boston, on 77,825 pounds of toilet soap, 15c for 23,993 pounds.

Navy DDT Bids

The following bids were entered in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, which called for insecticides; item (1) 300 pounds of concentrated powder (DDT) in 25-pound steel containers; (2) 100 gallons of concentrate solution (DDT), xylene-emulsifying agent, in five-gallon steel containers; (3) 240 pounds diluted powder, 10-pound can, 10 per cent DDT, in talc or pyrophyllite, for use against larvae, roaches, flies, etc.; Soilicide Laboratories, Montclair, N. J., item 2, DDT, at \$1 a pound, item 3, 25c a pound in five-pound cans; Brilco Laboratories, Brooklyn, item 1, \$1.46, item 2, \$3.15 and item 3, 32c; and McCormick & Co., Baltimore, item 2, \$5.2416 and item 3, 31.65c.

Navy Transparent Wax Bids

In a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York, the following bids were entered on 2,500 pints of transparent wax; R. M. Hollingshead Corp., Camden, N. J., 14c; Oil Specialties & Refining Corp., Brooklyn, 14.5c; Uncle Sam Chemical Co., New York, 14.9c; Twin City Shellac Co., Brooklyn, 15c; and Minnesota Mining and Manufacturing Co., St. Paul, Minn., 30c.

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The following trade - marks were published in the September issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

PAINT-NU—This in upper case, light open letters for cleaners for painted surfaces, etc. Filed Apr. 13, 1944, by Paint-Nu Products Co., Los Angeles. Claims use since Apr. 7, 1944.

(Three fanciful figures bearing the legends: grease, germs and dirt)—for soap in various forms and scouring preparations. Filed May 19, 1944, by Fitzpatrick Bros., Chicago. Claims use since Jan., 1944.

NOX-SOIL—This in upper case, extra bold, black letters run around a right angle for a general household cleansing compound. Filed May 27, 1944, by Neverub Corp., Chicago. Claims use since Nov. 5, 1942.

SCOOP—This in upper case, extra bold, black letters for detergent soap powder. Filed June 14, 1944, by Fink-Roselieve Co., New York. Claims use since June 12, 1944.

"THE INVISIBLE WORK-GLOVE"—This in upper and lower case, bold letters for protective hand cream. Filed June 17, 1943, by Magnaflux Corp., Chicago. Claims use since May, 1942.

STREL—This in extra bold, black upper and lower case letters for shampoo. Filed June 3, 1944, by Procter & Gamble Co., Cincinnati. Claims use since Apr. 25, 1944.

W.S.—This in upper case, extra bold letters for furniture, automobile, floor and wooden polishes. Filed Oct. 27, 1943, by Standard Oil Co. of New Jersey, Wilmington, Del. Claims use since Aug. 27, 1943.

FIXIT—This in upper case, bold letters for furniture and floor polish.

Filed June 2, 1944, by Wilbert Products Co., New York. Claims use since Jan., 1944.

UNIVERSAL—This in upper case, bold letters for metal cleaner. Filed Nov. 24, 1943, by Universal Utilities Products, Detroit. Claims use since Oct., 1941.

QUALICO LIQUID SOAP—This in upper case, open reverse letters on a vertically lined, screen rectangle the word "Qualico" above the other two for pure coconut and castor base liquid soap. Filed Dec. 6, 1943, by Physicians & Hospitals Supply Co., Minneapolis. Claims use since Aug. 2, 1943.

SAN-A-PAN—This in upper and lower case, medium letters for deodorant and absorber for poultry brooders. Filed Feb. 26, 1944, by J-D Chemical Co., Omaha, Nebr. Claims use since Jan. 5, 1944.

ROSE STAGGERED BAIT—This in upper and lower case script and block, black and reverse letters for bait for exterminating rodents and pests. Filed Apr. 26, 1944, by Rose Exterminator Co., Chicago. Claims use since Mar. 28, 1944.

(A silhouette drawing of a man's head within a keystone)—for moth proofing compounds and fly sprays. Filed May 4, 1944, by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use on mothproofing compound since Feb., 1942, and on fly sprays since Oct., 1942.

VERSENE—This in upper case, stencil letters for water softening agents in powdered and liquid form with or without detergents. Filed June 7, 1944, by Martin-Dennis Co., Newark, N. J. Claims use since Oct., 1937.

R.P. 26—This in upper case, stencil letters for water softening agents in powdered and liquid form with or without detergents. Filed June 7, 1944, by Martin-Dennis Co., Newark, N. J. Claims use since July, 1939.

ARISTOWAX—This in upper case, extra bold, black letters for petroleum wax. Filed Dec. 27, 1943, by

Union Oil Co. of California, Los Angeles. Claims use since Nov. 6, 1941.

AR-NEL'—This in upper case, inline letters for tarnish remover and glassware cleaner. Filed May 7, 1943, by Arnel Products, Chicago. Claims use since Mar. 15, 1940.

PEROXO—This in extra bold, black, upper case letters for chemical cleanser and soap in powder form. Filed Oct. 4, 1943, by Acme Chemical Co., Milwaukee. Claims use since Jan. 1, 1927.

CREOSOAP—This in upper case, reverse letters on a rectangular screen for liquid soap with cresol. Filed Dec. 6, 1943, by Physicians & Hospitals Supply Co., Minneapolis. Claims use since July 30, 1934.

NURSOAP—This in upper case, reverse letters on a rectangular screen for neutral liquid soap for the nursery. Filed Dec. 6, 1943, by Physicians & Hospitals Supply Co., Minneapolis. Claims use since Dec. 18, 1938.

HANSOFT—This in upper case, extra bold, black letters for all-purpose cleaning compounds. Filed Dec. 6, 1943, by Turco Products, Inc., Los Angeles. Claims use since Feb. 1, 1938.

BOTL-GLO—This in upper case, extra bold, black letters for all-purpose cleaning compounds. Filed Dec. 6, 1943, by Turco Products, Inc., Los Angeles. Claims use since July 1, 1938.

PALMO—This in upper case reverse letters in a rectangular block beneath the fanciful drawing of a pair of hands, a palm tree and the moon for a bar type hand soap. Filed June 9, 1944, by Palmo Products Co., Miami, Fla. Claims use since May 1, 1925.

ESWEL—This in upper case, bold letters for cleansing compounds. Filed June 12, 1944, by S. W. Landsberger Chemical Works, Inc., New York. Claims use since May 10, 1944.

GERM-I-TROL—This in upper case, bold letters for germicide, disinfectant and fungicide. Filed Aug. 21, 1943, by Fine Organics, Inc., New York. Claims use since Jan. 1, 1943.

GLAMOUR—This in upper case, extra bold letters for paint cleaners. Filed Mar. 2, 1944, by H. Muller Touraine, New York. Claims use since Feb. 9, 1944.

THERMO—This in upper case, extra bold black letters for hand clean-

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Post-war developers are taking a close-up view of PQ Soluble Silicates and their properties.

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metasilicate, for instance. Do you have the pertinent facts of its properties and usefulness in private brand cleaning compounds? Bulletin 466 mailed free on request brings them to you.

You may already be working with a product which involves a sodium silicate. Then make use of our silicate of soda information service for data. PQ "know-how" of silicate manufacture

and application technique has been accumulating for over 75 years. The many references to silicates in patents and literature in our files are a time-saver and help to investigators. This background is worth remembering too.

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er. Filed Apr. 12, 1944, by L. G. Gusler, Ft. Sumner, N. Mex. Claims use since June 8, 1939.

UTILLO—This in extra bold, upper case letters for metal, wood and other surface cleaner and polisher. Filed June 24, 1944, by Haroutun Hagopian, Detroit. Claims use since Mar. 26, 1939.

ONEXITE—This in upper case, bold letters for liquid cleaning compound for floors. Filed July 10, 1944, by Hillyard Chemical Co., St. Joseph, Mo. Claims use since Nov. 10, 1928.

ROXALIN—This in upper case, bold stencil letters for chemical compositions for mildewproofing fabrics, wood and other materials. Filed Apr. 4, 1944, by Roxalin Flexible Finishes, Inc., Elizabeth, N. J. Claims use since 1925.

ORALINE—This in upper case, medium letters for tooth paste and tooth powder. Filed June 16, 1944, by S. S. White Dental Manufacturing Co., Philadelphia. Claims use since 1880 for the tooth paste; since July 17, 1941, for the tooth powder.

ST GEORGE—This in extra bold, upper and lower case old English letters for gold and silver polish. Filed July 13, 1943, by Trident Manufacturing Co., New York. Claims use since Dec., 1942.

TRITEEN—This in upper and lower case, bold script letters for combined non-freezing mist preventer and cleaner for glass. Filed July 13, 1943, by Claire M. Cabot, New York. Claims use since Dec., 1942.

JNT—This in upper case letters over a triangle and within a circle for fabrics, upholstery and rug cleaner, spot remover and venetian blind tapes and cords cleaner. Filed Dec. 29, 1943, by J N T Mfg. Co., New York.

NEOTERGE—This in upper and lower case extra bold, black letters for detergent preparation in powder form as a cleanser. Filed Mar. 13, 1944, by Tricosal Co., San Francisco, Calif.

BEAUTE-KLEEN DENTURE POWDER—This in upper and lower case, bold script letters above the drawing of the lower portion of a human face for dentifrice. Filed May 15, 1944, by Amenta Specialties, Chicago. Claims use since May 1, 1944.

MELLOFOAM—This in upper case, reverse letters for toilet soap in liquid form. Filed June 3, 1944, by Antiseptic Co., Chicago. Claims use since Nov. 10, 1937.

SHAMPOOCH—This in upper case, bold letters for shampoo for use on pets. Filed Oct. 4, 1943, by Kent Laboratories, Highland Park, Ill. Claims use since Apr. 1, 1935.

TROPICALIZER—This in upper and lower case, bold script letters for chemical preparation used to prevent the growth of fungi and bacteria in the treatment of oils, waxes and greases. Filed June 9, 1944, by Baltimore Engineering and Chemical Co., Baltimore. Claims use since May 25, 1944.

DECAPRYN—This in upper case, bold letters for germicidal solution. Filed June 23, 1944, by Wm. S. Merrill Co., Cincinnati. Claims use since Apr. 26, 1944.

LIENDRINA—This in upper case, medium letters for preparation for the extermination of nits and lice. Filed June 24, 1944, by Los Angeles Pharmacal Co., Los Angeles. Claims use since Apr. 14, 1944.

FLY ROCKET—This in upper case, bold letters for various types of insecticide sprayers. Filed Apr. 14, 1944, by American Specialty Co., Amherst, O. Claims use since Sept. 1, 1943.

Trade Marks Granted

408,488. Venetian blind cleaner, etc. Filed by JNT Mfg. Co., New York, Dec. 29, 1943. Serial No. 466,160. Published May 30, 1944. Class 4.

408,495. Water soluble chemical paste to be used in liquid form all-purpose washing. Filed by Brico Corp., New York, Jan. 13, 1944. Serial No. 466,524. Published May 30, 1944. Class 4.

408,506. Toilet bowl cleansing powder. Filed by Bray Chemical Co., Chicago, Mar. 6, 1944. Serial No. 467,183. Published June 6, 1944. Class 4.

408,524. Agricultural fungicide. Filed by E. I. du Pont de Nemours & Co., Wilmington, Del., Feb. 26, 1944. Serial No. 467,781. Published May 30, 1944. Class 6.

408,525. Insect repellent lotion. Filed by Skol Co., New York, Feb. 26, 1944. Serial No. 467,769. Published May 30, 1944. Class 6.

408,529. Toilet soaps. Filed by Associated Distributors, Chicago, Mar. 1, 1944. Serial No. 467,868. Published June 6, 1944. Class 4.

408,548. Disinfectant. Filed by Polk Miller Products Corp., Richmond, Va., Mar. 17, 1944. Serial No. 468,391. Published May 30, 1944. Class 6.

408,558. Lathering, emollient and detergent preparation. Filed by Fairchild Bros. and Foster, New York, Apr. 3, 1944. Serial No. 468,956. Published May 30, 1944. Class 4.

408,629. Shoe polish in paste form. Filed by K. J. Quinn & Co., Boston, Mar. 10, 1944. Serial No. 468,159. Published June 13, 1944. Class 4.

408,686. Moth preventive spray. Filed by Destruxol Corp., Ltd., Pasadena, May 21, 1941. Serial No. 443,755. Published Nov. 4, 1941. Class 6.

408,752. Cleaner for removing surface film. Filed by JNT Manufacturing Co., New York, Dec. 29, 1943. Serial No. 466,162. Published June 20, 1944. Class 4.

408,756. Curled plastic strip for cleaning and polishing pots, pans, etc. Filed by National Plastic Products Co., Odenton, Md., Jan. 6, 1944. Serial No. 466,352. Published June 20, 1944. Class 4.

408,801. Monochlorodifluoromethane, being fluorinated hydrocarbons used as propellants. Filed by Kinetic Chemicals, Inc., Wilmington, Jan. 25, 1944. Serial No. 467,759. Published June 13, 1944. Class 6.

408,861. Household soap. Filed by Lite Soap Co. Aurora, Ill., Apr. 12, 1944. Serial No. 469,243. Published June 20, 1944. Class 4.

408,865. Soap. Filed by Procter & Gamble Co., Cincinnati, Apr. 20, 1944. Serial No. 469,510. Published June 20, 1944. Class 4.

409,008. Shampoo. Filed by Amarosa Co., New York, May 17, 1943. Serial No. 460,664. Published Oct. 12, 1943. Class 6.

(Turn to Page 78)



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As of October 1, 1944

THE fat and oil supply situation is coming to be a cause of increasing concern to soap manufacturers and other oil and fat users. A recent report by the U. S. Department of Agriculture predicts that total supplies of fats and oils during 1944-45 may be 700 to 800 million pounds less than in 1943-44. Domestic production of fats and oils has been estimated at 10 billion pounds for the 1944-45 season, which while substantially above pre-war figures, is still a substantial drop from the record harvest of 11.3 billion pounds achieved in the bumper 1943-44 crop year.

It has been estimated by WFA officials that the soap industry will need some 2,400,000,000 pounds of fats and oils during the year ending June 30,

1945. With increasing demands for soap for export to liberated countries, the pressure on fat supplies seems bound to be acute over the months ahead. The only answer for soap makers seems to be continued stress on fat salvage, and unfortunately the optimistic spirit which our European victories have created has, together with other factors, been responsible for a recent rather sharp drop in fat salvage collections. With soap makers dependent on tallow and grease for perhaps eighty per cent of their fat supplies, it becomes more than ever evident that they cannot allow the fat salvage campaign to lag.

There are a few brighter aspects to the situation, one of which is the improved stock picture as compared with a year ago. The Depart-

ment of Agriculture reported stocks of fats and oils as of July 1 at 2,710,000,000 lbs. This represents a gain of about 700,000,000 lbs. as compared with the stock position on the same date in the previous year. Lard production is another bright spot in the oil and fat picture, and lard may once again become an ace in the hole for soap makers to fall back on if stocks of normal soap making materials are drawn down to abnormally low levels.

INVENTORIES of lard and rendered pork fat on July 1, 1944, as reported by the Bureau of Census, totaled 685 million pounds, largest on record. And so, no stringency with regard to supplies of lard and rendered pork fat is anticipated before well into 1945. Then, when, as and if the predicted



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shortage comes, it will be due to the fact that a reduction of over a billion pounds in the output of lard and rendered pork fat is expected. In addition to a reduction in output of lard an approximately 50 per cent reduction in the domestic flaxseed crop, is expected to further darken the overall fats and oil picture. Further, the U. S. Department of Agriculture released a story late last month to the effect that Argentina's 1944 flaxseed crop, harvesting of which will take place in Nov. and Dec., may be one of the smallest in many years.

Essential Oil Developments

An increase in oil of peppermint quotas for nearly all industrial users of this product, effective Oct. 1, was announced Sept. 28, by the War Food Administration. Increased production, the WFA release stated, has made larger quotas possible. Among the increases becoming effective Oct. 1, are quotas on use of peppermint oil in the

manufacture of dentifrices—from 75 to 85 per cent, and for miscellaneous articles from 70 to 80 per cent. The quota base period is the year 1941, but allocations are on a calendar quarter basis. All industrial users affected by WFO 81 may use the increased quotas without further application to the WFA.

Lethane Price Cut

A reduction in the price of "Lethane" insecticide concentrates was announced late last month by Rohm & Haas Co., Philadelphia. Concentrates affected by this latest price reduction include: "Lethane 384," "Lethane 384 Special" and "Lethane 60."

Paradichlorobenzene Short

Leading manufacturers are reported buying paradichlorobenzene on the open market to fill contracts. It is acutely short. Further evidence to this effect may be gathered from the fact that pest control operators are reported to have had difficulty in obtain-

ing their requirements of para. Although the material is not under allocation, production is curtailed and manufacturers are said to be attempting to distribute their meagre supplies on an equitable basis. However, since many pest control operators buy through jobbers or distributors, and since many distributors are reported to have more lucrative outlets for resale of para, or do not have on hand amounts required, considerable difficulty in obtaining the product is experienced. Naphthalene is also reported to be very tight, since it is going in crude form into the manufacture of phthalic anhydride, which in turn is used in the insect repellent, dimethyl phthalate.

Offers Ouricury Wax

E. A. Bromund Co., New York, has announced, in a letter, that they are offering on spot, subject to prior sale, four tons of "Special G. & B." Brazilian refined ouricury wax at 49 $\frac{3}{4}$ c a pound, f.o.b., New York.

RAW MATERIALS FOR THE SOAP INDUSTRY

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Soya Bean Oil
Fatty Acids
Lard Oil
Neetsfoot Oil

Silicate Soda
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Tri Sodium Phosphate

Oleo Stearine
Stearic Acid
White Olein
Tallow

Di Sodium Phosphate
Chlorophyll
Superfating Agent

Grease
Lanolin
Caustic Soda
Soda Ash

Borax
Caustic Potash
Carbonate Potash
Sal Soda

Dry Alkali Mixtures

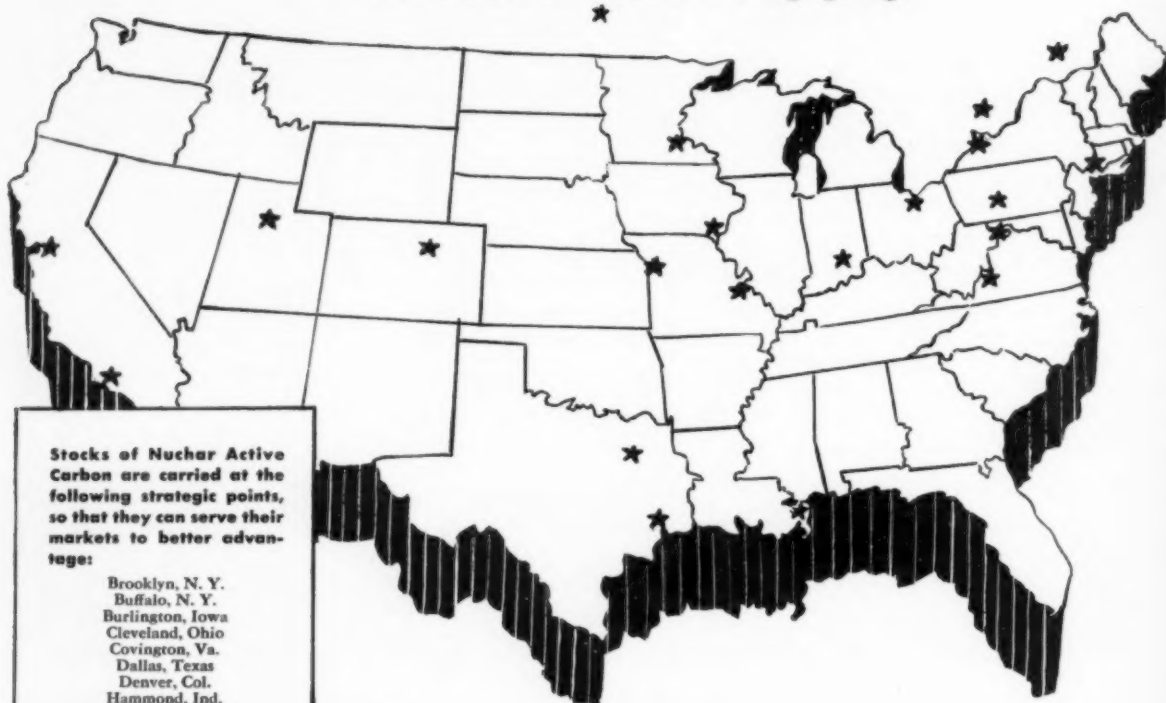
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Toronto, Canada
Tyrone, Pa.
Winnipeg, Canada

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Abietic Acid
Snow Top Precipitated Calcium Carbonate
Liquid Caustic Soda
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Lignin
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Sulphate Wood Turpentine

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There are strategically located stocks of Nuchar Active Carbon convenient to important consuming centers to service customers requiring less than carload deliveries. These warehouse stock points form a nation-wide network which assures local delivery service in virtually every part of the United States and Canada. Nuchar is manufactured in three plants—namely, Covington, Virginia; Piedmont, West Virginia; and Tyrone, Pennsylvania, from where all carload shipments are made.

Each plant is fully equipped with a laboratory devoted exclusively to problems of manufacture and use of Active Carbon. Your technical staff will find Active Carbon a useful tool in your process. We will gladly send you a sample of Nuchar best fitted to your problem.



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AQUEOUS soap solutions above a certain critical concentration will dissolve organic substances. The solutions so formed are true solutions and not emulsions. The solvent action is appreciable even in dilute solutions of the order of 0.01 Normal, depending on the soap used, and remains in constant ratio to the amount of soap present.

Critical Concentration

The physical properties of detergent solutions, when investigated over a range of concentrations, do not usually vary in a linear or even in a simple manner with concentration, but show a distinct break in the curve. The interfacial tension of sodium alkyl sulfates, for example, when plotted against concentration, shows a steep decline to a definite point, then a gradual but very small rise in interfacial tension. The concentration at the lowest point, where the rapid fall in interfacial tension is sharply arrested, is called the critical concentration. It is constant for a given detergent at a given temperature. Moreover, this break at the critical concentration is shown in other physical properties of detergent solutions, including conductivity, density, surface tension, transport number, and adsorption on textiles. For a given detergent at a fixed temperature the break always occurs at the same concentration, whatever physical property is being investigated.

The explanation of what happens at this point is that the fatty-acid ions group together into aggregates or micelles with their hydrophilic or carboxyl groups on the outside, and their hydrophobic or paraffin

chains in the center. One conception of the micelle is that it is spherical and that it probably contains at least 50 ions, with their charged ends forming the outer surface of the sphere. This picture led to the first convincing explanation of the solvent powers of detergent solutions. Hartley assumed that the interior of a micelle corresponded exactly to a tiny drop of hydrocarbon, and that organic substances dissolved in this interior just as they would in a drop of the corresponding hydrocarbon. For example, in a sodium palmitate solution, $C_{15}H_{31}COONa$, the micelle interior should correspond to a tiny drop of hexadecane, $CH_3(CH_2)_{14}CH_3$. It must be emphasized that micelles do not correspond to emulsion droplets and that their size is very small, probably not more than 40 Å. in diameter (1 Å. equals 10^{-8} cm.).

In an attempt to check the validity of this theory, the solubility of organic compounds in aqueous solutions of detergents was measured and compared with the solubility in the corresponding pure hydrocarbon. Hartley found that the solubility of azobenzene in cetyl pyridinium chloride, an invert soap, was substantially the same as its solubility in hexadecane, the corresponding hydrocarbon. The fact that the solubility rose to a constant value at the critical concentration indicated that solubility became appreciable only when micelles were present. It is known that the addition of electrolytes to detergent solutions lowers the critical concentration, that is, that micelles are formed at a lower concentration. In Hartley's system, the maximum solubility ratio

should be reached at a lower concentration of detergent in the presence of electrolytes. Experiment confirmed this, indicating again that the solubility was dependent on the presence of micelles.

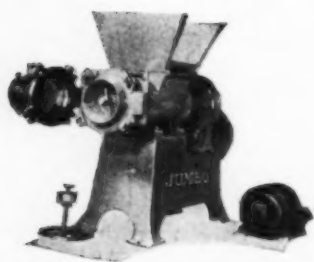
Practical Applications

The point at which micelles form is frequently above normal washing concentrations. The solvent action of soap solutions above the critical concentration would not be expected to have any great importance in detergent processes. Hartley proved, however, that the presence of electrolytes lowered the critical concentration and correspondingly lowered the point at which solvent action became appreciable. Many commercial washing operations take place in the presence of electrolytes, most commonly sodium carbonate, sodium silicate or sodium phosphate. In particular, common salt is frequently used in washing very greasy overalls. The explanation hitherto given is that the electrolyte salts out the soap onto the greasy fabric, thus enabling the grease to be more easily removed. It is possible, however, that solvent action plays a part, since at the concentration present, micelles almost certainly exist.

In washing the hands with a normal cake soap, analysis showed that the concentration of the soap solution when the soap is rubbed on the hands was usually 0.63-0.76 per cent. With a more soluble soap containing more sodium oleate or with a liquid soap, the concentration would probably have been much higher. It is probable that grease is removed from the hands not only by the usual detergent action, but

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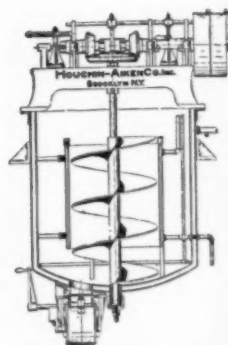
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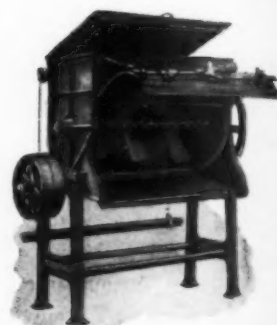
**AUTOMATIC
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PERFECTION CRUTCHER

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so designed that soap can be emptied into hopper of mill or plodder.

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HAWTHORNE, N. J.

also by direct solution. It is also possible that soreness of skin after extended washing operations is due not only to the alkalinity of the soap solution, but also to its solvent action in removing the protective layer of fat. If so, a case can be made for washing in much more dilute solutions. Kenneth Tomlinson. *Manufacturing Chemist* 15, 198-200 (1944).

Soap in Mineral Oil

The physical properties of soap in mineral oil depend largely on the degree of dispersion of the soap. Calcium and aluminum soap dispersions yield a short unctuous texture owing to the small size of the soap fibers in these systems. Sodium soap dispersions show a wide range of texture from a smooth to a very fibrous character. These fibers were examined by transmitted polarized light, which shows a definite two-phase system consisting of a suspension of fibers in oil. By use of a micro-manipulator it was possible in some instances to pull out long fibers. Glycerol is essential for the production of long fibers in ordinary practice, because the oil can wet the soap in its presence. W. Gallay, I. E. Puddington and J. S. Tapp. *Can. J. Research* 22B, 66-75 (1944).

Rancidification Studies

The spoilage changes in fats were studied by determinations of the acid number, saponification number, refractive index, peroxide number, aldehydes, and methyl ketone. The peroxide number was found to be the best criterion for studying the tendency toward rancidity. T. Sundberg and S. O. Hultberg. *Iva* 1942, 243-57; through Chem. Abs.

Soap Crystals

Sodium stearate can be crystallized only at a critical concentration below the gel point in an alcohol solution. Sodium palmitate cannot be crystallized below the gel point, but does give crystals on the addition of a pinch of sodium chloride, which appears to act as a nucleus for crystal growth. A. de Bretteville Jr. and F. V. Ryer. *J. Phys. Chem.* 48, 154-7 (1944).

Free Alkali Determination

Free alkali is determined in a specially designed apparatus in which the potential between the test-electrode, preferably an antimony electrode, and the reference electrode, a calomel electrode of known type, is adjusted to show a zero galvanometer deflection when the fluid soap of less than 35 per cent moisture content has a predetermined free alkali content. While the reference electrode remains stationary, the test electrode is wet by a fluid hydrated soap of the same composition, hydration and temperature, but undetermined free alkali content. The variations cause deflections of the galvanometer which can be connected with a regulatory pump delivering the fatty or alkaline agents. G. D. Miles, C. W. Jakob and J. H. Percy, to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,345,465.

Arylation of Fats

The reaction of soybean oil with toluene and xylene was carried out at 30° C. with the aid of aluminum chloride. This reaction proceeded much more rapidly than the arylation of camelia oil. The iodine number was reduced to a minimum value of about 15 in a half hour. The product was an orange yellow to red orange viscous oil with a green to violet fluorescence. The difference between the iodine number and the thiocyanate number was reduced by arylation. Thus arylation of unsaturated fatty acids having more than one double bond has a desirable effect.

Arylation combined with vacuum distillation offers a new method for the separation of the saturated and unsaturated components of an organic mixture, and at the same time a method of synthesis of arylated compounds. W. Kimura. *J. Soc. Chem. Ind. Japan, Suppl. Bind.* 44, 101B-4B; through Chem. Abs.

Babassu Oil Changes

The changes occurring in babassu oil upon exposure to air for 33 days are caused by rancidity due to hydrolysis of the glycerides with liberation of the fatty acids, and oxidation of the unsaturated acids. The latter re-

sults in the formation of aldehydes, ketones and acids of lower molecular weight and peroxides. The great increase in the latter proves that the constituents of babassu oil are more subject to oxidation than to hydrolysis. A sample of the oil exposed to ultraviolet rays and aerated had a peroxide content 3 times as high as the natural oil. L. R. Guimaraes. *Anais assoc. quim. Brasil* 2, 202-5.

Soil Removal and pH

The pH of laundry wash liquors containing soap and alkali drops substantially when the temperature is raised from ordinary to high temperatures. This fall of pH, which is of the order of 1 pH unit, is greatest if the soap-alkali ratio is high. Colorimetric determinations of the pH of wash liquors were found unreliable.

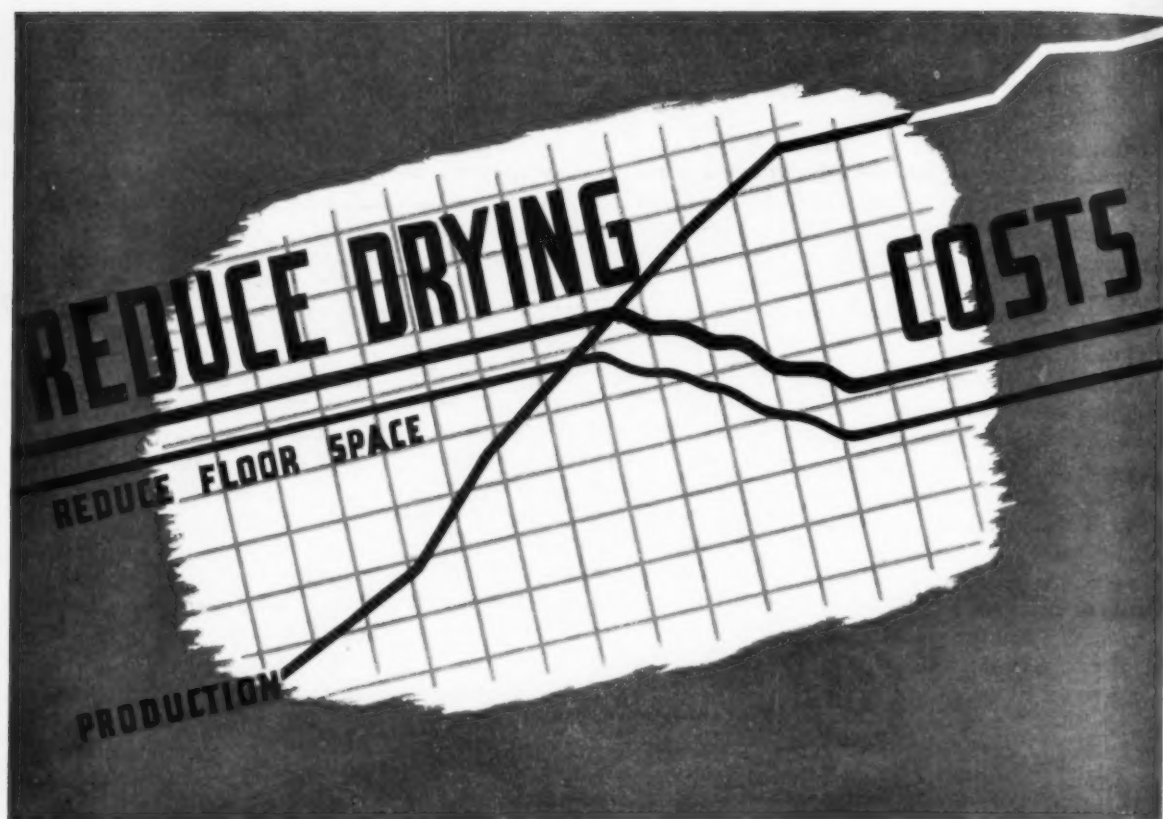
Washing tests were carried out for artificially soiled fabrics with liquors containing a fixed amount of soap and varying amounts of modified alkali. Cleansing as measured both by whiteness and by soil removal increases with alkali concentration up to 0.2 per cent, although the pH is constant. It is concluded that alkali titration is a better criterion for wash liquors than pH measurement. T. H. Vaughn and L. R. Bacon. *J. Textile Inst.* 35, A116 (1944).

Fatty Acid Manufacture

High-molecular aliphatic hydrocarbons are mixed with up to 50 per cent by weight of corresponding high-molecular decomposition products of aliphatic hydrocarbons. The mixture is oxidized. The amount of the decomposition products is determined essentially by their content of unsaturated components. Markische Seifen-Ind. German Patent No. 736,471.

Detection of Hardened Fats

The substitution of zinc acetate for lead acetate in the testing of solid fats by the Twitchell method resulted in a higher yield of solid fatty acids. The zinc soaps are coarsely crystalline and can be washed better. This method of separation fails with olive oil. A. Bomer and B. Hagemann. *Fette und Seifen* 50, 1-12.

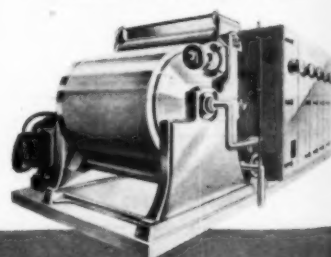


ONLY THE PROCTOR FLAKE SOAP SYSTEM ASSURES SUCH LOW OPERATING COSTS

The greatly increased efficiency of the Proctor Flake Soap System makes this modern method an extremely low cost production unit when compared with older types of equipment. In one case where the Proctor System replaced an old type, having a five-roll chilling machine, a saving of more than 30% was realized in total drying costs; a reduction of 38% in steam and a saving of 55% in floor space. Then, too, on the older machine large quantities of fines sifted through the conveyor and frequent cleaning was necessary. This entailed considerable labor cost and meant loss of production time. On the Proctor machine, fines have been reduced to a minimum, because of the continuous ribbons it produces and because of the many improvements in the design of various parts of the machine. Many older machines are constantly being stopped for repairs to broken or worn parts, not only disrupting production but also involving material and labor costs. The Proctor Flake Soap System is designed and built to avoid such losses.

NOW IS THE TIME

It is none too soon for you to be giving careful consideration to your postwar equipment needs. A little time-out will now undoubtedly save you a considerably more costly "time-out" period when the conversion comes. Now is the time to let Proctor engineers assist you in planning for the new machinery that will help you increase your postwar profits.



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By DR. E. G. THOMSSSEN, PH.D.

THE word "clinic" is really a medical term often carried over into other fields to imply any place or procedure where problems of various kinds are discussed and solved. The word is a good one for a column like this, in that it presents a word picture. It implies that both the doctor and the patient gain knowledge, one from the other. This knowledge is then disseminated in other directions to correct and improve conditions prevailing therein. This is exactly the idea behind establishing this column.

Soap & Sanitary Chemicals has realized the necessity of bringing to the attention of its friends information in the production field that will aid suppliers and producers. The success of this innovation, which will be a regular feature of this publication, is dependent upon those engaged in these fields. Let us know then, Mr. Supplier, what you have that is of interest and especially novel. We will digest it to the best of our ability, abridge it and present it to Mr. Production Man as concisely and clearly as we are able. We wish to reiterate that we are particularly interested in the newer items and improvements.

During these years when war essentials have had first call in all directions, it has been difficult to obtain new equipment and supplies for civilian use. It has even been hard to get repair parts for machinery. The end of this trying period is now in sight; it may arrive sooner than most of us suspect. In the interim, then, it is good judg-



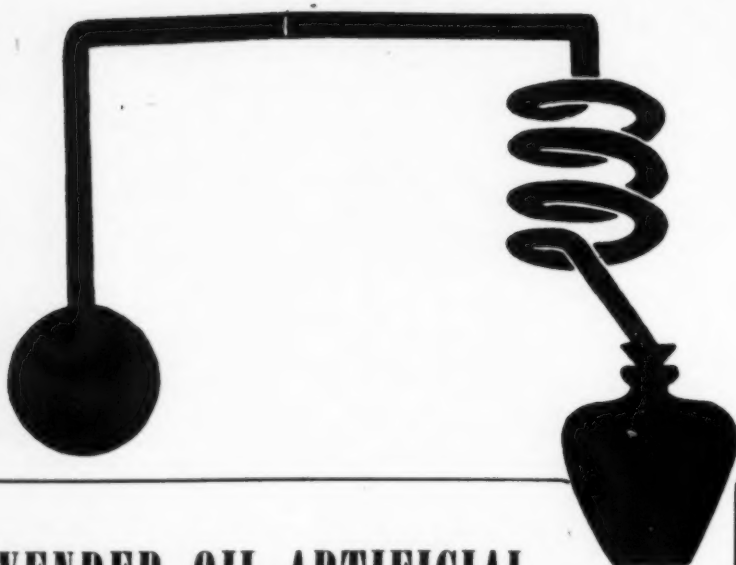
THIS is the start of a new department to be conducted monthly by Dr. E. G. Thomssen. Its purpose will be to discuss production problems, new materials, formulation, equipment, plant layout—in fact anything which Dr. Thomssen in the light of his thirty years' experience in practical plant operation in the field of soap products, insecticides, disinfectants, household chemical specialties, etc., feels is of value to our readers. He will welcome questions, suggestions and criticism—The Editor.

ment to continue to keep old machinery and equipment in as good repair as possible and to continue the use of available supplies without building up *too great an inventory*. Much has been learned about improved new materials and equipment construction in recent

years. New types of metals, plastics, impregnated and strengthened wood and paper as well as other materials have been devised for new uses. Machinery will be lighter, faster, more efficient. Post-war planning for the purchase of new machinery and equipment should not discount these advances during the war years. From many sources we have received word that suppliers of these products are preparing new catalogues and new announcements of modern, improved equipment and supplies.

A slack period may soon be anticipated in many plants that have been operating at full capacity over the past few years. As war contracts are completed or later canceled, and as new machinery eventually comes to be available, advantage should be taken of this easing in production demands to put into first rate shape again those plants that have of necessity been allowed to run down mechanically under the stress of wartime production. In anticipation of this slack period, it might be very well now to check over the condition of tanks, mixers, mills, filters and other items of equipment and to study the possibilities of using additional labor-saving devices. Much of the old, well-worn, slow-moving equipment that the average operator has been forced to keep in service over the past few years will be found to be thoroughly obsolete and too wasteful of labor to keep operating in the post-war era.

Recent reductions in the working day and increases in wage rates have introduced a new factor making it more important than ever to obtain maximum production per machine with minimum expenditure of labor. The more efficient the plant equipment, the lower will become the labor cost per unit of product. Assume, for instance, a cost of fifteen hundred dollars for a new piece of equipment with a life expectancy of ten years. The annual cost for the machine of one hundred and fifty dollars will be far overbalanced by the yearly labor wage of perhaps two thousand dollars to the man who operates the machine. An increase in efficiency of equipment to give a labor saving of as little as ten or



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twenty per cent will clearly justify complete re-equipment of plant with the most modern and efficient type machinery available.

Used Machinery

TO our way of thinking, the used machinery dealers have a characteristic closely resembling those of a squirrel. They salvage and store machinery and equipment for future emergency and then dole it out when the necessity arises. These dealers have done an excellent job during the war years particularly and have been life-savers for many a manufacturer.

The Consolidated Products Company of New York, who for years have been leaders in the used machinery field, have sent us an attractive booklet on "The Contribution of Used Machinery to American War Production." This booklet describes this company's contribution to the war effort. It is presented in such a manner as to make interesting reading. Not only in numerous cases has this company furnished used equipment urgently required for war and civilian purposes, but it has re-opened and is operating successfully through the efforts of its officers, large plants which were in receivership and the receivers of which had offered the machinery for sale. The Consolidated Products Company purchased several plants of this type from the receiver, but instead of liquidating, they reopened and operated them, sometimes by making other war essential products that closely simulated the products originally made.

In rendering this service, they have made constructive contributions to the preservation and building up of American industries. American manufacturers owe much to the dealers of used machinery and particularly in the past few years when all equipment has been difficult to obtain.

Mixer Improvements

A REQUEST has come to us from a prominent advertising agency for information regarding the uses of industrial mixing equipment to determine their post-war uses. The manufacturer who employed this agency to make the survey, goes into the matter very thoroughly. In addition to requesting information regarding the in-

dustries in general, they are obtaining specific information on deficiencies in present mixers, improvements recommended, best speeds for operation, sizes of batches and other important details. There is room for improved mixers in our industries in the post-war period.

The bane of any production man is to have a piece of equipment break down, especially at a most inconvenient time. When a break-down comes and a repair cannot be made in the case of a mixer without emptying a batch of the product, the aggravation increases. This is especially true in cases where the product is spoiled or apt to be spoiled by such an occurrence. It has been said more than once that equipment designers should be made to use their machinery before marketing it. This would result in greater conveniences to the user under actual plant conditions.

H. K. Porter Co. of Pittsburgh are offering a new side entering agitator which can be packed in a few minutes without draining the liquid from a tank. It is a good example of working with plant employees. This new agitator overcomes objections to side entering agitators, because the stuffing box is on the outside and can be re-packed while the liquid is sealed in the mixing tank, even though it be filled to the brim. An expert mechanic is unnecessary to make the repair. It may be simply, quickly and conveniently done by an ordinary factory workman. There are other features about this agitator which recommend it over the older types which have caused inconveniences like those cited. The agitators are made in an assortment of sizes.

Heat Transfer Apparatus

THOSE of us who last year read the findings of facts and conclusions of the law in the United States Maryland District Court, in the Bodman patent litigation, learned considerable about improved floating soap making methods. The use of the Banbury Mixer and the Votator were described in detail by the Court in its long decision.

We recently received several catalogues from the Girdler Corporation of Louisville, Kentucky, advertis-

ing the Votator which they manufacture. Several catalogues telling of its operations in various industries are published by this company. The use of the Votator for soap making, as is quite well known, is controlled by one soaper in this country. For that reason its use in the soap industry is not included in this literature. The Votator closely resembles the old hand-turned, home-made ice cream freezer in principle. It consists of an insulated cylinder located either vertically or horizontally. This cylinder is partitioned for the circulation of refrigerated brine or other liquid. A concentric revolving shaft, equipped with scrapers, is fixed to the center of this cylinder. The material to be processed is pumped through the annular space, separated from the brine by the thin shell or wall which permits a rapid rate of heat transfer. The rapidly revolving scraper blades attached to the shaft continuously expose a clean surface of this wall to the material. The machine can be equipped to aerate the material if desired. It, therefore, not only mixes, cools and heats, but also emulsifies and aerates. While we have not heard much of its use for this purpose, one of these days a liquid emulsion wax producer will probably experiment with this machine and produce a superior product.

Concrete Floor Treatment

SYNTHETIC PRODUCTS COMPANY of New York City offers a concentrated treatment for cement floors called "Synkrete." By diluting this product with three parts of water an economical material that is easily applied by mop, brush or sprinkler is produced. This liquid readily soaks into the pores of dusting concrete and forms a rock-like water insoluble surface that prevents it from being worn away rapidly. Floors treated with "Synkrete" are said to resist traffic wear, water infiltration, oils, greases and chemicals, according to this supplier. Further literature may be obtained upon application.

In continuing this "Production Clinic," we need your assistance. Send us your suggestions and criticisms. Let us know more about your problems and possibly we can help.

Meaning of Contact Angle

When a drop of liquid rests on a solid, the angle between the solid and liquid surfaces at the point of contact, measured in the liquid, is a characteristic of the two surfaces. This angle is called the contact angle. Theoretically it may vary between 0° and 180° . In practice, zero contact angles are quite frequent, which means that the solid surface is completely wetted by the liquid. Contact angles of 180° are never found. (This would mean that the drop formed a perfect sphere and touched the solid at only one point.) The maximum contact angle of water is about 105° when in contact with a paraffin wax surface.

Contact angles can be measured by a variety of methods. A plate or fiber of the solid may be rotated in a vertical plane in the surface of the liquid. The contact angle may be read directly at the point at which the solid ceases to distort the liquid surface. An alternative method is to place a small drop of the liquid on a solid surface, and project an enlarged image of the drop on to squared paper. From the nature of the curve produced, the angle of the tangent at the point of contact may be calculated. The accuracy of the best methods is about 1° .

Applications

In many operations it is necessary to wet a solid surface with a liquid, and this means that the contact angle must be zero. This problem arises in such varied operations as the wetting of textiles preparatory to washing, the wetting of leaves and foliage in insecticidal sprays, and the wetting of wool in sheep dips.

In these cases, the contact angle is reduced by the addition of a wetting agent to the liquid. Substances which reduce the contact angle include soaps, sulfated fatty alcohols, sulfonated fatty acids and fatty-acid amides, alkyl naphthalene sulfonic acids, long-chain quaternary ammonium compounds, etc. All of these compounds have polar molecules in which the hydrophilic end-groups orient themselves at the water surface, causing a reduction of surface tension and of contact angle. (Contact angle is therefore another one of the physical

methods useful as a measure of wetting efficiency.) K. Tomlinson. *Manufacturing Chemist* 15, 130-1, 146 (1944).

Laboratory Soap Boiling

A method is described in which gravity settling has been replaced by centrifugal separation in the course of laboratory soap boiling. The time required for the preparation of a sample of soap in this manner can be reduced to about 8 hours. Results are reproducible, and by selection of suitable conditions during centrifuging, samples can be made to duplicate closely corresponding soaps made on the kettle floor with regard to appearance and composition. H. G. Kirschenbauer. *Oil & Soap* 21, 237-8 (1944).

Peroxide Bleaching

A peroxide bleaching bath for bleaching textile goods, has a pH of at least 11.5 and contains as stabilizer both a magnesium salt readily soluble in water and an alkali metal pyrophosphate, for example, magnesium sulfate and tetrasodium pyrophosphate. E. I. du Pont de Nemours & Co., to Imperial Chemical Industries Ltd. British Patent No. 551,831.

Chlorinated Paraffins

Chlorinated paraffins are produced on a large scale by reacting paraffinic fractions with chlorine under carefully controlled conditions. The reaction is one of substitution and not addition, and by-product hydrochloric acid is formed during the process. The chlorinated paraffins produced in this manner range from liquids to brittle resins, depending on the percentage of combined chlorine. Because of this and because of the great number of different types of paraffin wax and other high molecular-weight liquid and solid hydrocarbon mixtures derived from petroleum available for chlorination, a large number of chlorinated paraffins can be produced. The term chlorinated paraffin therefore refers to a series of homogeneous mixtures of products with fairly constant and uniform chemical and physical properties.

Among the best known uses is impregnation of fabrics to produce

flameproof, waterproof and mildew-proof material. A less known use is the mixing of chlorinated paraffins with terpenes to make insecticides. The patent literature also discloses that the addition of a small proportion of chlorinated paraffin to castor oil will render the latter soluble in mineral oil. The use of chlorinated kerosene as a raw material for hard-water detergents and wetting agents is an outstanding example of important applications. Walter E. Scheer. *Chem. Industries* 54, 203-5 (1944).

Fatty Acid Determination

To determine fatty acids in soaps, extract 10 grams of dried, finely powdered soap for 30 minutes with alcohol in a Soxhlet apparatus, concentrate the alcoholic solution, dilute with 50 cc. of water, acidify, and determine the fatty acid in the usual way. A. Amoretti. Riv. ital. essenze, profumi piante offic. 23, 127; through Chem. Abs.

WASHINGTON LETTER

(From Page 42)

number of the participating companies are reported to be continuing individually to use the same machinery to recover usable containers, but the withdrawal of one of the large participants is believed responsible for the discontinuance of the cooperative industry plan. This same firm is reported to have acted recently to withdraw former offers in effect for the purchase of used containers.

Seek Higher Container Quotas

Meanwhile the soap industry is seeking an increase in its quota on new containers above the 80 per cent level now in effect. What the outcome of the industry's appeal will be cannot at the moment be predicted.

Await Change in OPA Soap Staff

Watchers of the Washington scene look for an early change high in the executive staff of the soap and glycerine division of OPA. There seems to be a possibility that this unit may be split and its various segments disposed among other OPA units.

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U.S.I. CHEMICAL NEWS

October



A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries



1944

U.S.I. Announces Two New Phenolics

Unusual Properties Exhibited by New "Arochem" Resins

Of timely interest to formulators of varnishes and vehicles for protective coatings, and to ink manufacturers and other resin users, is U.S.I.'s introduction of two phenolic-type resins, especially developed for present-day use with soft oils. Both of these resins are currently available for many civilian end-uses, although application must still be made, as usual, under W.P.B. Order M-246.

S&W Arochem 337

S&W Arochem 337 is especially useful in quick-drying varnishes, quick-drying enamels for either general or industrial use, floor paints, spar varnishes, over-print varnishes and printing inks. This high melting point, modified-phenolic resin imparts faster bodying rate, faster drying properties, superior resistance to alkali and water, and greater film hardness and mar resistance than most modified phenolics in varnishes of equivalent oil lengths.

Ease of handling is another feature. Although it has an exceptionally high melting point, it is readily soluble, without special cooking procedures in most high viscosity oils. In nearly all cases, the total resin and oil content may be charged into the kettle at the start and taken to top heat without any "kick-out" or formation of gel particles. Due to the short cooking schedules required, varnishes made with S&W Arochem 337 are light in color.

While this resin is too reactive to be used with tung oil alone, satisfactory varnishes may be produced by the addition of moderate amounts of less reactive resin or oil to the cook.

S&W Arochem 338

S&W Arochem 338 is particularly well suited for use in gloss ink vehicles and over-print varnishes as well as varnishes and enamels for general and industrial use.

This resin, like S&W Arochem 337, is a modified phenolic, but it has a higher melting point, and being less soluble in solvents and oils, is more rapid in its bodying action. Developed primarily for use in printing inks and over-print varnishes, it produces ink vehicles of exceptionally high viscosity when cooked with linseed or other drying oils. This shortens the manufacturing holding times. Due to the unusually large molecular structure of the resin, the resulting vehicles dry to extremely

(Continued on next page)

Tonnage Production of Indalone Involves Novel Claisen Reaction

Manufacture of U.S.I.'s War Important Insectifuge Among First Large-scale Commercial Uses of this Type Condensation

Although every organic chemist has had laboratory experience with Claisen-type condensations, until recently only few have done much with these interesting reactions on a large commercial scale. The sudden demand for atebryn, sulfa-

merazine, vitamin B₁ and U.S.I.'s Indalone, as a result of the war, has focused wide attention on the tonnage production of such chemicals and has brought many developments of both present and postwar significance. First of these from the standpoint of tonnage is U.S.I.'s manufacture of Indalone, vital ingredient in the government's new all-purpose insect repellent.

War Demands Met

Starting in the early 1920's with the first commercial production of acetoacetic ester, U.S.I. followed with the commercial-scale operation of a second Claisen reaction to produce sodium oxalacetate. This, in turn, was followed by the commercial introduction of Indalone in 1939. Tremendously stepped-up production of all of these products has been necessary to meet the huge war demands. This is particularly true of Indalone, production of which has been multiplied ten fold.

The reactions employed in the production of Indalone are shown on the next page. Mesityl oxide and dibutyl oxalate are first combined in a Claisen reaction using sodium butoxide as the condensing agent. This forms the sodium salt of Indalone which is then neutralized with dilute sulphuric acid. The process is carried out in the following stages.

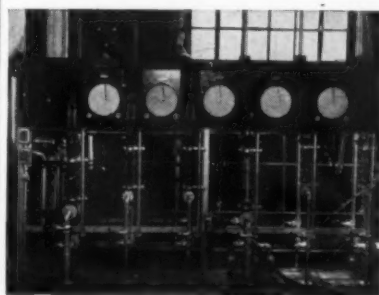
Condensation Stage

Carefully measured quantities of mesityl oxide and dibutyl oxalate are added to the reaction vessel together with sufficient benzene to assure complete solution of the sodium salt of Indalone at the end of the reaction. After thorough mixing, a carefully measured quantity of sodium butoxide (in butyl alcohol solution) is added. The reaction vessel is equipped with heat exchangers.

Neutralization

After the reaction has been completed (12-24 hours) the alkaline crude is neutralized with diluted sulphuric acid. This operation is critical and in the past has always been done on a batch basis. However, it is now being done

(Continued on next page)



Centralized control has played an important part in the successful tonnage-scale production of Indalone. Here you see one group of sensitive controllers, and recording instruments in U.S.I.'s Baltimore plant.

Finds New Short Cut to Zein Solutions

Current practice in preparing zein solutions calls for use of dry extracted zein to which is added a suitable solvent. Production of dry zein is a laborious and costly process involving the separate steps of precipitation, filtering, settling, washing and drying.

A newly patented process claims to greatly simplify the production of zein solutions and coating compounds by preparing them directly from the corn gluten. In the new method the granular or powdered gluten is first treated with a low boiling point zein protein solvent such as ethanol, or a mixture of such solvents.

Next the extract solution is separated from the residual gluten by filtration or centrifuging, and is then mixed with a base solvent of relatively high boiling point, such as ethylene glycol. Distillation removes the low boiling extracting solvent, leaving behind the zein dissolved in the base solvent and ready for use.

RESIN SPECIFICATIONS

	S&W AROCHEM 337	S&W AROCHEM 338
Acid Number:	30-40	25-35
Melting Point: (Mercury)	150-160°C.	160-170°C.
Color:	N-K	N-K
Specific Gravity:	1.1	1.1
Soluble in:	Coal-tar and petroleum hydrocarbons and the usual solvents; in oils, both high and low viscosity.	Coal-tar hydrocarbons and lacquer solvents; medium and low viscosity oils.

NOTE: S&W Arochem 337 is insoluble in ethyl alcohol. S&W 338 is insoluble in petroleum hydrocarbons, although solutions will tolerate a high proportion of these solvents; it is completely insoluble in ethyl alcohol.

U.S.I. Names M. F. Martin Asst. General Sales Manager

Mr. Milton F. Martin, associated with the Sales Department of U.S.I. since 1935, has been appointed Assistant General Sales Manager. For the past six years, Mr. Martin has been assistant to Mr. L. A. Keane, Vice-President in Charge of Sales.



Milton F. Martin

Novel Use of Solvents Improves Moulded Plastics

Color, transparency, and strength of certain transparent moulded plastics, formerly was impaired by small quantities of unreacted olefin and catalyst residue remaining after the reaction was completed. These impurities caused opacity after moulding and adversely affected the mechanical strength of the moulded article.

According to the claims appearing in a recent patent on olefin-sulphur-dioxide resins, a new process entirely eliminates these detrimental features. Crude olefin-sulphur-dioxide resin, in finely divided form, is treated with a blast of air or inert gas carrying vapors of a resin solvent such as acetone. The solvent penetrates the fine resin particles, and softens them.

Best moulding results are obtained when minute traces of the vaporized solvent are allowed to remain in the resin until it is moulded. According to the inventor, articles moulded from the new resin possess greater transparency and strength, and due to absence of unreacted ingredients, do not undergo a secondary reaction which changes their color after moulding.

Two New Phenolics

(Continued from preceding page)

hard, tough films with maximum "hold-out" and gloss.

In the production of varnishes and enamels, S&W Arochem 338 usually requires special cooking when used with most pre-bodied oils, and is too rapid in its bodying action for use with oils like tung, without modification. Thus Arochem 337 is generally preferred for these products.

U.S.I. will be glad to send samples and further data on both resins to anyone interested.

New Hydroscopic Ink For Recording Meters

One problem presented by recording meters of various kinds has been to find an ink which in the recorder pen will be able to withstand considerable exposure to the atmosphere without thickening or clogging, regardless of outside temperature or humidity, yet be fast drying after application.

A recent patent calls for a combination of a brilliant red dye with a tartrazine yellow for luminosity in a medium composed of water, ethanol, glycol and acetic acid. The hydroscopic effect of the glycol tends to absorb moisture from the air, thereby preventing the ink in the recorder pen from drying out. However, once the line is traced on the paper chart, the glycols are readily absorbed by the paper, thus producing a fast-drying ink. The acetic acid is added as a preservative.

Tonnage Production

(Continued from preceding page)

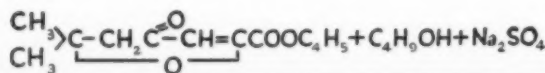
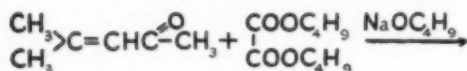
with complete success using a continuous method developed at U.S.I.'s Baltimore plant.

Distillation and Recovery

The neutralized crude obtained from the above step is stripped of volatile solvents—benzene, butanol, and water—by a series of continuous vacuum distillation columns. The benzol and butanol are subsequently refined and returned to succeeding condensations. The stripped crude contains Indalone and a small amount of tars. The Indalone is recovered from the stripped crude by a continuous flash-distillation process, operating at 2 to 4 mm. Hg. absolute pressure.

Approximately 90% of the Indalone is recovered in the flash-distillation process. The remaining 10% is present in the tar residue withdrawn continuously from the process. The Indalone present in these tars is recovered by a batch, low-pressure distillation process.

SYNTHESIS OF INDALONE



TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A water-resistant resin adhesive has been developed for use in mounting and over-coating paper and for other industrial applications where moisture resistance is needed. It is claimed that this new, clear adhesive will withstand a 48 hour immersion test, and that its long wet-life prevents paper wrinkling, makes registration easy. (No. 859)

U S I

Flame-proofed felt for vibration damping and insulation in high-temperature areas has been announced. It is claimed that this chemically treated felt can be exposed to the direct flame of a bunsen burner without either combustion or after glow. (No. 860)

U S I

A new rust-removing compound is claimed to facilitate pre-painting preparation of metal surfaces. The crystals of the preparation are said to become part of the metal and to be paint absorbent. (No. 861)

U S I

A tackifier for synthetic rubber, which is said to have added use as an extender, has been announced. The new product is claimed to be soluble in aromatic hydrocarbons, vegetable and mineral oils, and synthetic rubber. Some tack remains after vulcanizing. (No. 862)

U S I

Rubber heel marks and dirt may be removed from wood, cement and linoleum floors by a new cleaner, according to its manufacturer. (No. 863)

U S I

New flux for brazing preparation of cast iron, has been developed. It is said to produce a uniformly successful tinning prior to brazing. (No. 864)

U S I

A non-slip liquid wax, which, according to the manufacturer, requires no buffing and which may be applied with cloth, mop or spray equipment, has just been put on the market. (No. 865)

U S I

Two new protective creams have been designed to protect worker's hands. One is water soluble for dry work; the other is for protection where water and mild chemical solutions are present. (No. 866)

U S I

New dye for vinylite plastics, designed for dip application is available in yellow, orange, rose and green. A dip of 5 seconds is claimed to give a pastel shade, while a 60 second dip gives deep tones. (No. 867)

U S I

A new plastic resin adhesive, said to be colorless, of low viscosity and water-soluble, has been placed on the market. It is intended to be used with a co-agent in laminating and sizing textile fabrics and paper. (No. 868)

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Fusel Oil—Refined

Ethanol (Ethyl Alcohol)

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Absolute

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*ANSOL

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Ansol PR

*Registered Trade Mark

ACETIC ESTERS

Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS

Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS

Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS

*Diatox
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES

Acetoacetamide
Acetoacet-ortho-aniside
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS

Ethyl Ether
Ethyl Ether Absolute—A.C.S.

FEED CONCENTRATES

*Curboy B-G
*Curboy Special Liquid
*Vacatone 40

ACETONE

Chemically Pure

RESINS

S&W Ester Gums—all types
S&W Congo Gums—raw, fused & esterified
S&W *Aroplaz—alkyds and allied materials
S&W *Arolene—pure phenolics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades

OTHER PRODUCTS

Cellodons
Ethylene Glycol
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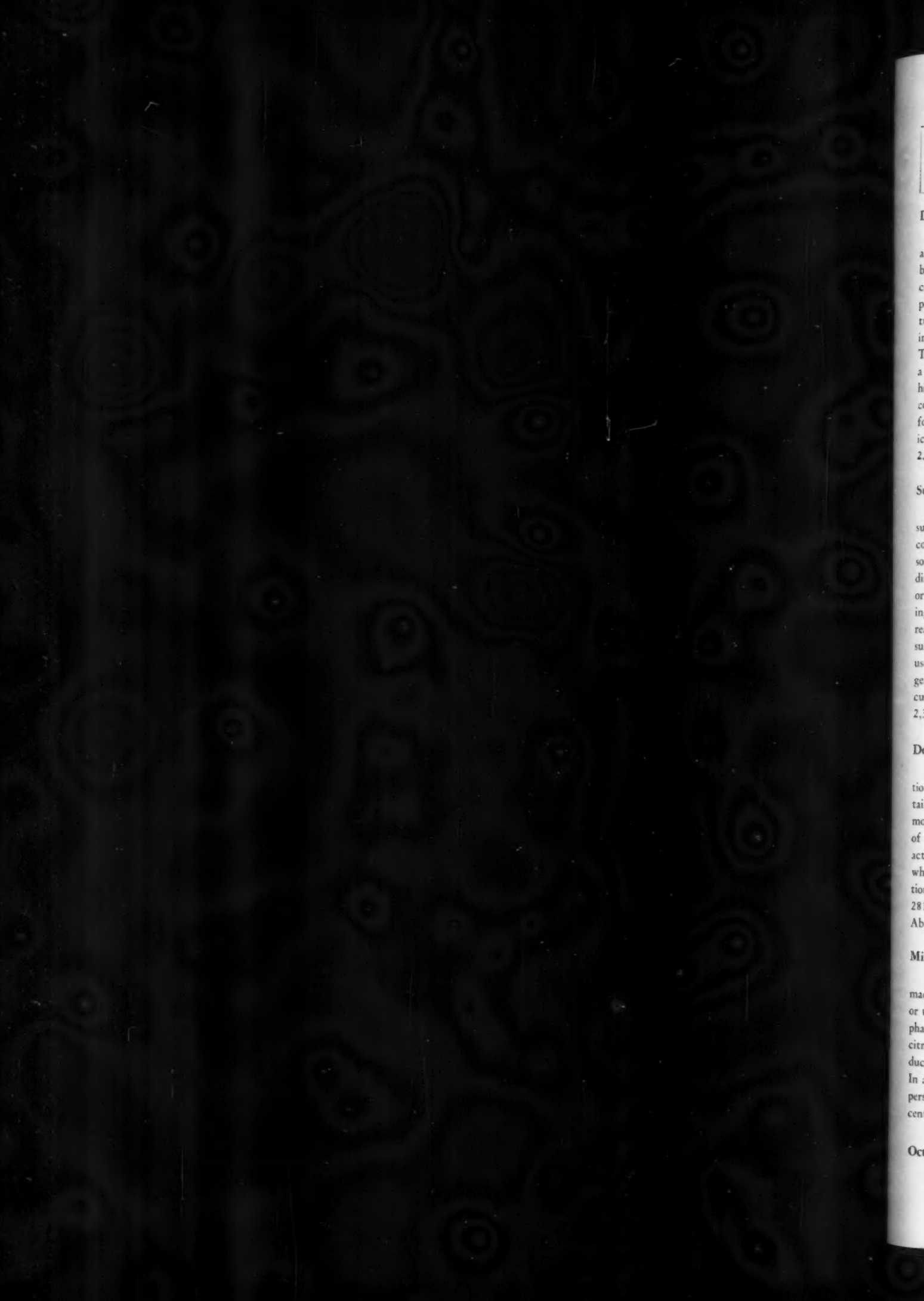
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PRODUCTS AND PROCESSES

Detergent Mixture

A detergent mixture of higher alkyl benzene sulfonates is produced by forming a benzene hydrocarbon condensation product of a polycomponent nonaromatic hydrocarbon mixture of mineral origin such as a chlorinated Pennsylvania kerosene mixture. This condensation product is distilled, a fraction of the distillate containing higher monoalkyl benzene compounds collected, and these compounds sulfonated. L. H. Flett, to Allied Chemical & Dye Corp. U. S. Patent No. 2,340,654.

Sulfonation Products

A mixture of a sulfonate and a sulfate is obtained by sulfonating a condensation product of a phenol, cresol or *alpha*-naphthol, with mono- or dimeric alloocimene or other monomer or polymer of an acyclic terpene having 3 double bonds per molecule. The reaction is carried out at 70° C. The sulfonation products are suitable for use as emulsifying agents and detergents. A. L. Rummelsburg, to Hercules Powder Co. U. S. Patent No. 2,340,901.

Detergency Aids

Washing tests with combinations of washing agents which contained sodium silicate, Tylose and high-molecular phosphates showed that all of these agents promote the washing action. The best results were obtained when all three were used in combination. O. Uhl. Seifensieder-Ztg. 69, 281, 291-2, 300-1; through Chem. Abs.

Mixed Detergent

To ordinary soaps an addition is made of 18-20 per cent of boric acid or the equivalent of monosodium phosphate, citric acid, mono- or disodium citrate or sodium acid tartrate, to reduce the alkalinity to a pH of 7.2-8.0. In addition there is incorporated a dispersing agent to the extent of 3-30 per cent of the weight of the soap. This

has the general formula MO_xSR , where M is a salt-forming base which forms a water-soluble sulfuric ester and sulfonic acid salts, and R is an alkyl or oxyalkyl radical of at least 8 carbon atoms attached to sulfur. Examples of such dispersing agents are the commercially known: Nacconol NR, Keminol, Ultrawet, Aerosol NAL, Gardinol, Ninol 737, etc. E. A. Vitalis, to Am. Cyanamid Co. U. S. Patent No. 2,345,307.

Blown Castor Oil Detergent

A sulfate of a blown alkylolamide such as a blown castor oil monoethanolamide, is produced which may be used as a dispersing agent or detergent. Corresponding phosphates and borates may be formed, as well as the sulfate. G. D. Davis and Wm. L. Abramowitz, to National Oil Products Co. U. S. Patent No. 2,340,112.

Anhydrous Saponification

Finely dispersed caustic soda suspended in mineral oil effected almost complete saponification of fats and fatty acids at 60° C. Finely dispersed calcium hydroxide effected saponification at 50° C. Small quantities of added water promote saponification. This procedure was also used to prepare suspensions of soaps of aluminum, magnesium, barium, lead and lithium. W. Gallay and I. E. Puddington. Can. J. Research 22B, 76-89 (1944).

Scouring Assistant

An emulsion which serves as a scouring assistant for mineral sulfonates comprises a mixture of water, oil, alkali salts of alkylated phenol sulfonates, and alkali salts of oil-soluble sulfonates. J. B. Holtzclaw and G. E. Serniuk, to Standard Oil Development Co. Canadian Pat. 420,693.

Bleaching Oils

Fats, oils and waxes may be bleached with hydrogen peroxide to which an alkaline agent is added to neutralize the liberated acids. The best

results were obtained with 0.1-0.2 per cent of magnesium oxide. L. Spirk. Casopsis Mydlar Vonavkar 20, 101-2; through Chem. Abs.

Soap Antioxidant

An antioxidant for incorporation in soap consists of a mercapto pyrimidine compound such as 2-mercapto-4,6,6-trialkyl dihydro pyrimidine. Wm. Peter Horst, to Dominion Rubber Co. Canadian Patent No. 421,523.

Water Softener

An alkali-metal salt of a halogen-substituted polyacrylic acid is added to hard water to prevent precipitation. An example of such a compound is the sodium salt of *alpha*-chloro-polyacrylic acid. H. R. Dittmar, to Canadian Industries, Ltd. Canadian Patent No. 422,344.

Soap from Mono Esters

Soap is produced by reacting a fatty-acid ester of a lower alkyl monohydric alcohol with a saponifying agent. The reaction is carried out under subatmospheric pressure with the temperature kept above the vaporization point of the free alcohol. The saponification may be carried out and then the pressure reduced on the reaction mixture enough to volatilize the free alcohol. W. R. Trent, to Colgate-Palmolive-Peet Co. Canadian Patents Nos. 421,806 and 421,807.

Soap Holder

A soap holder designed to save soap consists of a box-like shape provided with an open front. The sides are lower in the center than at the ends. D. M. Wolf. Canadian Patent No. 422,319.

Cream Shampoo

A cream shampoo can be made from ordinary shampoo by simply reducing the water content. To make the product opaque, add one of the following: Lanolin, spermaceti, a higher alcohol, propylene glycol stearate, mineral oil, or petrolatum. Am. Perfumer 46, No. 8, 33 (1944).

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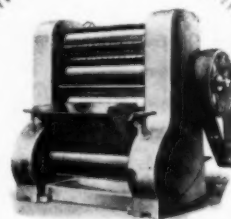
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IN MACHINERY

Conducted by**Lancaster, Allwine &
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PATENT AND TRADE MARK CAUSES****402 Bowen Building,
Washington, D. C.**

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

Reissue No. 22,524, Insecticide, reissued August 1, 1944, original No. 2,307,482, dated January 5, 1943, by Seaver A. Ballard, Oakland, and Vernon E. Haury, El Cerrito, Calif., assignors to Shell Development Co., San Francisco. The process of controlling insect pests, comprising the step of exposing said pests to an unsaturated alicarbocyclic ketol having the carbonyl group in the ring and containing at least 10 carbon atoms.

No. 2,355,974, Insecticidal Composition, patented August 15, 1944, by Edward Harvill, Yonkers, N. Y., assignor to Boyce Thompson Institute for Plant Research. An insecticidal composition comprising a toxic compound selected from the group consisting of monohydric phenols and polyhydric phenols, said phenolic compound having at least one phenolic group free and at least one hydrogen of the benzene ring replaced by at least one radical selected from the group consisting of allyl and propenyl, and a petroleum distillate solution of an insecticidal material selected from the group consisting of pyrethrum and rotenone-bearing plants.

No. 2,356,443, Method of Making a Composition for Use in Detergents, patented August 22, 1944 by Harry Gerard Bissinger, Denville, N. J., assignor to Drew Associates, Inc., New York. A method of making a composition for use in a detergent which comprises providing alkali metal hydroxide in the form of particles, adding thereto an oil of the higher fatty acid-glyceride type, the amount of said oil being sufficient to form a thin film on said alkali but in-

sufficient to cause adherence of the particles of said alkali, mixing said oil and alkali in the presence of sufficient moisture to cause an exothermic reaction to take place to form an intermediate layer of soap which is salted out at the interface, and spreading said composition in thin layers to allow cooling thereof without charring.

No. 2,356,792, Liquid Composition for Polishing and the Like, patented August 29, 1944 by Byron J. Oakes and Dean K. Murray, St. Paul, assignors to Minnesota Mining & Manufacturing Co., St. Paul. As a new composition of matter, a viscous liquid abrasive polish, adapted for use in polishing lacquered and enameled surfaces, comprising an oil-in-water emulsion having finely divided feldspar abrasive particles suspended therein, said oil-in-water emulsion comprising volatile mineral oil as the dispersed phase and water as the continuous phase, with said mineral oil present in proportion by weight at least approximately three times that of said water; a water-soluble emulsifying agent present in substantial but minor proportion to said water; and said abrasive particles being present in greater proportion by weight than the aggregate of the liquid constituents of said polish.

No. 2,356,801, Insect Repellent Composition, patented August 29, 1944 by Bernard V. Travis and Howard A. Jones, Orlando, Fla., assignors to the United States of America, as represented by Claude R. Wickard, Secretary of Agriculture, and his successors in office. An insect repellent composition containing as an essential active ingredient a ternary solution comprising by volume from 33 1/3 per cent to 80 per cent of dimethyl phthalate, and complementary equal parts of 2-ethyl-1,3-hexanediol and n-butyl mesityl oxide oxalate.

No. 2,356,903, Soap-Free Detergents in Bar Form, patented August 29, 1944 by Richard C. Wood, Cincinnati, assignor to The Procter & Gamble Co., Cincinnati. A substantially soap-free detergent in bar form comprising: a substantially solid water soluble salt of a sulfated fatty alcohol having more than eight carbon atoms in the alkyl radical, which salt is characterized by its high solubility in water, its resistance to precipitation by the constituents of hard water, and its effective detergent properties; a polyhydric alcohol partially esterified with a fatty acid having at least twelve carbon atoms in the molecule in amount not exceeding

about thirty-three per cent; and at least 5 per cent and not over about forty per cent of an inorganic chloride selected from the group consisting of sodium chloride and potassium chloride.

No. 2,357,077, Organic Parasiticide Compositions, patented August 29, 1944, by Kenneth R. Brown, Kennett Square, Pa., assignor to Atlas Powder Co., Wilmington. A process for controlling insects which comprises applying to the insects an insecticide containing as an active ingredient a partial capric acid ester of a low molecular weight neutral aliphatic polyhydroxylic organic compound.

No. 2,357,078, Parasite Control, patented August 29, 1944 by Kenneth R. Brown, Kennett Square, Pa., assignor to Atlas Powder Co., Wilmington. A process for controlling insects which comprises applying to the insects an insecticide containing as an active ingredient a water-dispersible composition comprising a partial lauric acid ester of a low molecular weight aliphatic polyhydroxylic compound selected from the class consisting of polyhydric alcohols, di- and poly-condensation products of polyhydric alcohols, and carbohydrates.

No. 2,357,260, Insecticide, patented August 29, 1944 by Percy E. Joyce, Calcutta, India, assignor to Shell Development Co., San Francisco. An insecticide comprising a carrier and an unsaturated ketone having at least 12 carbon atoms selected from the group consisting of aliphatic ketones and cyclo ketones having the keto group in the ring, said ketones being further characterized by being produced by condensing unsubstituted carbonyl compounds with themselves.

Molecular Distillation

Fractionation of a molecularly distilled oil occurs on the basis of variations in molecular weight of the glycerides. The composition of cottonseed oil is such that there is a considerable separation of the glycerides according to their degree of unsaturation. The composition of peanut oil is such that similar separation can only be slight. Soybean oil is in this respect intermediate between cottonseed and peanut oils. Molecular distillation of hydrogenated cotton seed oil causes a segregation of tocopherols and related compounds similar to that observed in peanut oil. W. S. Singleton and A. E. Bailey. *Oil & Soap* 21. 157-9 (1944).

Tombarel

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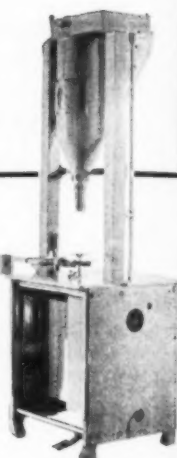
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The versatility of the S & S line of packaging machinery combined with our long experience have provided the answer for a number of firms planning to package new products or looking for more efficient, more economical methods of packaging their old lines for the post-war market.

Our engineering staff will gladly help you with your problems. Where restrictions will not permit us to supply the necessary machines now, some concerns are placing orders now for delivery when such restrictions are lifted.

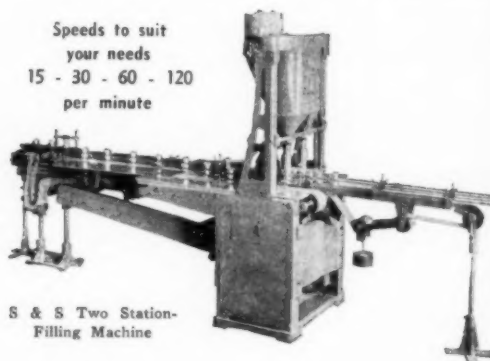
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EQUIPMENT AND BULLETINS

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York 1, mentioning the number of the item.

139—Soapmaking in Wartime

The September number of the "Givaudanian," house magazine of Givaudan-Delawanna, Inc., New York chemical and perfuming material firm, contains a rather complete summation of the impact of the war on the soap industry in an article: "Soapmaking in Wartime," by Dr. E. G. Thomssen, until recently chief chemist for J. R. Watkins Co., Winona, Minn. Dr. Thomssen comments particularly on the multiple problems that have faced the soap perfumer under the necessity of covering the "soapy" or "fatty" odors in his product that have been

produced by formula changes, while at the same time being faced by unavailability of many accustomed perfuming materials. He notes that there has been a shift from essential oils to aromatic chemicals and questions whether in many cases soap makers will ever go back to their pre-war perfuming formulas even when the old materials once more become available.

140—Water Analysis

Chief Chemical Corp., New York, is now offering for civilian use a device called the "Aero-Titrator," said to have been in use for the past three years by the Army in determining hardness of water. Determinations are made within ten minutes and accuracy is said to be comparable with that obtained with lengthy gravimetric methods. The device is said to give an accurate endpoint, and it is stated that the ratio of calcium and magnesium

present does not affect the determination.

141—Soap Uses in War

The Association of American Soap and Glycerine Producers has recently issued a new bulletin listing unusual uses of soap in war connected industries. Among the uses covered are the use of soap in new wire drawing processes, in impregnation of leather, etc. Copies are available.

142—A New Ethanolamine

Carbide & Carbon Chemicals Corp., New York, has issued a new data sheet describing dimethylethanolamine, a water-white, hygroscopic liquid with an amine-like odor which has been added to the C. & C. line. It is completely miscible with water, alcohol and benzene and forms light-colored esters with high molecular weight organic acids. It is suggested for use in corrosion inhibitors, acetate rayon dye-stuffs and textile auxiliaries and lubricants. Carbide & Carbon have also recently gone into production on several new additions to their line of

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Check this table comparing Valencia with the highest grade of imported Italian Pumice. See for yourself that Valencia is truly the standard of American Pumice.

	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

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polyethylene glycols and "Carbowax" compounds. Data sheets on each new product are available.

143—Poultry Disinfectant Studies

Disinfectants commonly used on poultry farms have been under investigation by the Veterinary Science dept. at Washington state agricultural experiment station, Pullman, Wash. Reporting on progress in the 53rd annual report of the institution, Dr. Ernest C. McCulloch, states that commercial silicate solutions mixed with various amounts of commercial sodium hydroxide "appear to be effective and economical disinfectants for poultry houses."

Five per cent sodium silicate solutions, either sprayed or painted on wooden surfaces, the report continues, "killed all gram negative pathogens tested and inactivated the virus of fowl pox. Addition of sodium hydroxide increases the germicidal activity of sodium silicate solutions, while the presence of sodium silicate makes lye solutions less caustic to handle, markedly improves their wetting properties

and leaves treated surfaces slightly smoother." Poultry specialists at Pullman have also recommended sodium silicate solutions for disinfection of baby chick shipping boxes.

144—Grasshopper Control Findings

The International Committee on Grasshopper Research, of which Prof. H. C. Severin, entomologist at the South Dakota Agricultural Experiment Station, Brookings, S. D., is chairman, has recently published its first report. Sections of the comprehensive volume survey work done by federal and state agencies and by Canadian dominion and provincial workers.

145—Wartime Uses for Tritons

Triton NE and Triton N-100, designed primarily for use in the textile field as powerful wetting agents and detergents, are now finding vital wartime uses as industrial cleaners, in priming compounds, electro-plating and pickling baths, in the manufacture of rubber life rafts and mine trap covers. Developed by the Rohm & Haas Company of Philadelphia, the NE

compound emulsifies oils and hydrocarbons, while the N-100 is also soluble in most organic compounds excepting aliphatic hydrocarbons.

146—Glyceride Emulsifier

A white, edible emulsifying agent is made under the name of Bemul by the Beacon Company of Boston. The compound is glyceryl monostearate; it is completely dispersible in hot water and soluble in alcohol and hot hydrocarbons. A 3 per cent aqueous dispersion has a pH of 9.3-9.7. The product may be used to form a protective coating on hygroscopic powders which have a tendency to cake and decompose. It can be used as an emulsifying agent for waxes, oils and cream polishes, and for a number of other industrial applications.

Hardesty Appoints Rowley

W. C. Hardesty Co., New York, announces the appointment of George A. Rowley Co., 937 No. Front Street, Philadelphia, as agents in the Philadelphia area to handle their line of fatty acids and their derivatives.



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AROMATICS

TRADE MARKS GRANTED

(From Page 57)

409,022. Wood preserving oil intended to protect wood from insects. Filed by Standard Oil Co. of New Jersey, Wilmington, Oct. 27, 1943. Serial No. 464,450. Published June 20, 1944. Class 6.

409,024. Wall, floor, etc., cleansing material. Filed by Wyandotte Chemicals Corp., Wyandotte, Mich., Nov. 8, 1943. Serial No. 464,842. Published June 27, 1944. Class 4.

409,025. Bottle washing cleansing material. Filed by Wyandotte Chemicals Corp., Wyandotte, Mich., Nov. 8, 1943. Serial No. 464,844. Published June 27, 1944. Class 4.

409,029. Shampoo. Filed by Consolidated Cosmetics, Chicago, Dec. 29, 1943. Serial No. 466,138. Published June 27, 1944. Class 6.

409,034. Deodorant powder. Filed by Sonya Tasler, Tucson, Ariz., Feb. 15, 1944. Serial No. 467,440. Published June 27, 1944. Class 6.

409,064. Deodorant for clothing and the home. Filed by D'Sapeer Co., Kalamazoo, Mich., Mar. 29, 1944. Serial No. 468,771. Published June 27, 1944. Class 6.

409,070. Metallic salts and soaps in solid, liquid and paste form for fungicides, insecticides and germicides. Filed by Nuodex Products Co., Elizabeth, N. J., Mar. 29, 1944. Serial No. 468,807. Published June 20, 1944. Class 6.

409,076. Insecticides. Filed by Willke Chemical Co., Houston, Tex., Mar. 31, 1944. Serial No. 468,910. Published June 20, 1944. Class 6.

409,081. Insecticide and fungicide. Filed by Central Chemical Corp., Everett, Pa., Apr. 3, 1944. Serial No. 468,952. Published June 27, 1944. Class 6.

409,137. Toilet soaps. Filed by Lightfoot Schultz Co., New York, Dec. 14, 1943. Serial No. 465,758. Published July 4, 1944. Class 4.

409,141. Fabric spot remover and cleaner. Filed by J N T Mfg. Co., New York, Dec. 29, 1943. Serial No. 466,163. Published July 11, 1944. Class 4.

409,156. Gritty powder to be sprinkled on wet floors for imparting non-slip properties to them. Filed by Walter G. Legge Co., New York, Mar. 23, 1944. Serial No. 468,570. Published July 11, 1944. Class 4.

409,159. Shaving soap. Filed by Trade Winds, Ltd., Los Angeles, Mar. 25, 1944. Serial No. 468,688. Published July 4, 1944. Class 4.

409,161. Lens cleaning preparation. Filed by Cosmet Co., Minneapolis, Mar. 31, 1944. Serial No. 468,877. Published July 11, 1944. Class 4.

409,174. Sudsing cleaner, cleanser and detergent. Filed by Procter & Gamble Co., Cincinnati, Apr. 22, 1944. Serial No. 469,577. Published July 4, 1944. Class 4.

Sulfur in Invert Soaps

Studies of the morpholine types of invert soaps have been extended to the corresponding sulfur analogs. Since the cetyl group is important in bactericidal invert soaps, *N*-cetyl thiomorpholine and several of its salts were prepared and studied. Wm. F. Hart and J. B. Niederl. *J. Am. Chem. Soc.* 66, 1610 (1944).

Foam Stability Measurement

A simple foam meter is described employing the bubbling of nitrogen through a liquid as the method of producing foam. By surrounding the tube with a vapor bath, foam measurement can be studied at different temperatures. The static foam units *L_f*, *L_l* and *L_g* are used to express the average lifetime of foam, liquid, and gas measured after the foam is formed. These units are applicable to different types of material and to different methods of foam measurement.

An analysis is made of the various factors that operate in influencing values of *L_f*, *L_l* and *L_g*, and the resulting mathematical equations tested by experimental data with three SAE 60 engine lubricating oils, three white paraffin oils, and a 2 per cent solution of Aerosol OT in triethanolamine.

The relation is pointed out between dynamic methods of foam measurement, made during formation of the foam, and static methods, made after the foam is formed. The unit *L_g*

can be converted into a function that expresses the foam stability of a liquid. A. P. Brady and Sydney Ross. *J. Am. Chem. Soc.* 66, 1348-56 (1944).

Glyceride Composition of Fats

The presence of a large number of isomeric glycerides of closely related physical properties complicates the study of the glyceride composition of natural fats. Both short spacing and long spacing diffraction data are reported for isomeric pairs of monoglycerides. These data are characteristic for each compound. Application of the data for identification of simple admixtures is indicated. An empirical equation is derived to express the long spacing values in terms of the number of effective carbon atoms. A direct relationship between the long spacings and the melting points of the monoglycerides is indicated. L. J. Filer Jr., S. S. Sidhu, B. F. Daubert and H. E. Longenecker. *J. Am. Chem. Soc.* 66, 1333-7 (1944).

Test for Mildew-Proofing

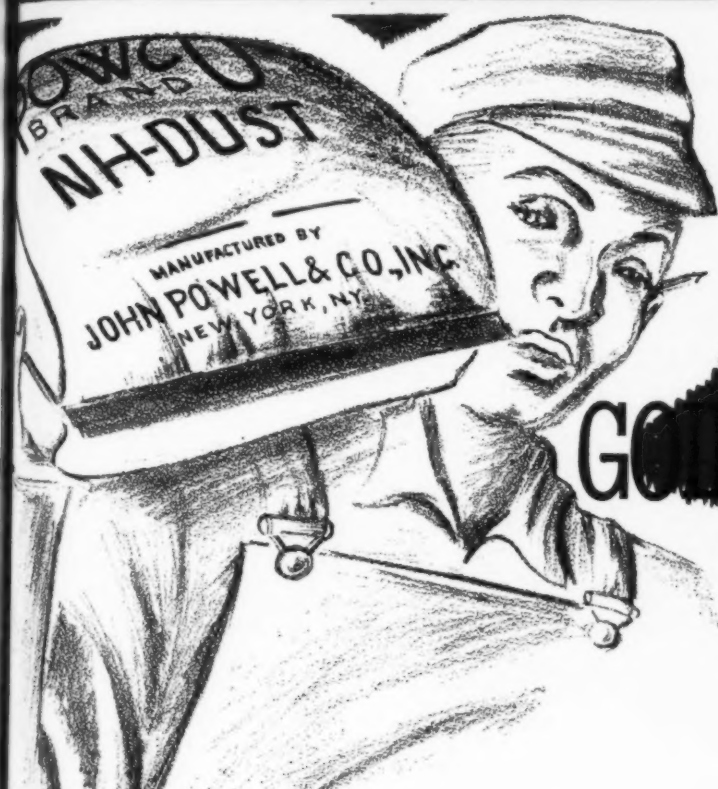
Organo-mercuric compounds have been employed by the armed services to mildew-proof textiles in increasing quantities. A method for the accurate chemical analysis of such compounds on textiles has been developed which depends on titration with a Dithizone solution (diphenyl thiocarbazon). The method permits a check on control, uniformity and proper processing with the mildew-proofing agent. D. A. Shirreff. *Am. Dyestuff Reporter* 33, P310, P315 (1944).

Detergent Briquette

A detergent briquette which is chemically and physically stable, hard, strong and nondeliquescent, consists of a dense crystalline aggregate containing 1-15 per cent of trisodium phosphate, 1-25 per cent of sodium silicate, 20-50 of soda ash, and 30-40 of water. The silicate preferably has a ratio of $\text{Na}_2\text{O}:\text{SiO}_2$ of less than unity. Sodium hexametaphosphate and sodium tetrphosphate may also be present. J. D. MacMahon, to The Mathieson Alkali Works. Canadian Patents No. 421,665, 421,666 and 421,667.

SANITARY PRODUCTS SECTION

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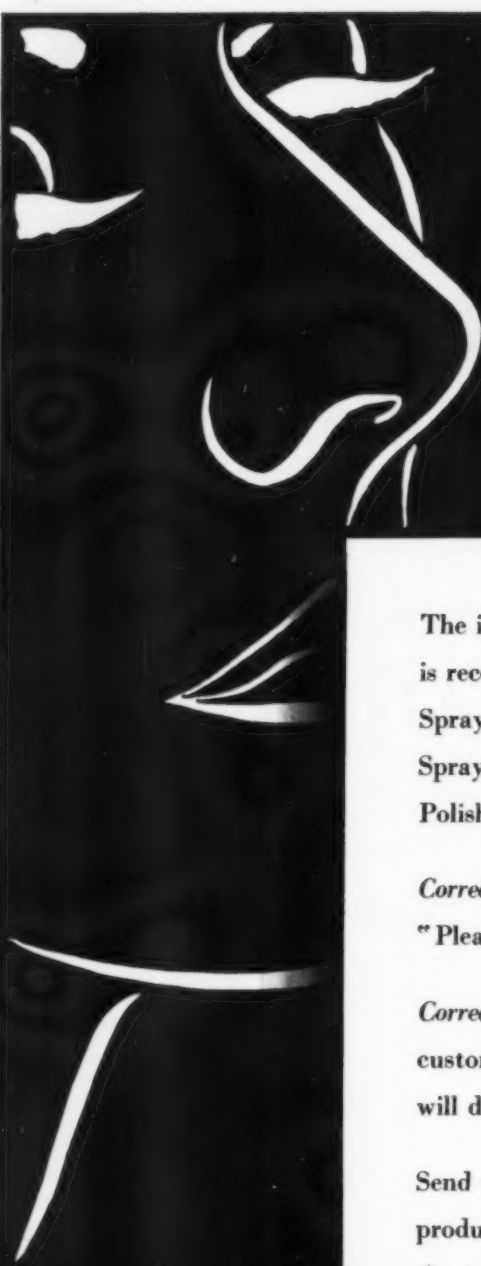
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The success of a large-scale aerial attack depends on a multiplicity of supporting factors, including supplies, data on the target area, weather, flight courses, altitude and approach of the bombing run. And timing.

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October, 1944

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ALLYMER—Columbia's recently announced thermosetting plastic—is truly a "contact-pressure" resin. In making laminated products, only enough pressure is used to keep plies in contact with the mold. The relative simplicity of the tooling necessary when Allymer is used and the large complicated sections which can be made greatly extend the application possibilities for laminated parts. Research reports and other data are available on request.



HOMEMAKERS, who have despaired of the ugly black marks left on floors by rubber-shod members of their families, can now eliminate this nuisance by insisting that "no-mark" soles and heels be obtained. Those two remarkable Columbia pigments, Calcene T and Silene EF, are being used with GR-S to make a highly satisfactory no-mark sole and heel stock. Primarily developed for the rubber industry, new uses for these pigments are being uncovered in numerous other fields. Write for information.



THOUGH THOUSANDS think of "bicarb" only for the relief it brings to certain stomach maladies, Sodium Bicarbonate serves in scores of other important uses in a variety of industries. To name but a few—in the baking and milling field, particularly as an ingredient of baking powders and self-rising flours . . . in the leather industry, as a neutralizer in tanning operations . . . in textile manufacturing, for the prevention of timber mold. Columbia manufactures three grades of Sodium Bicarbonate in various granulations to meet the specific needs of customers in every field.



COLUMBIA CHEMICALS include Soda Ash, Caustic Soda, Sodium Bicarbonate, Liquid Chlorine, Silene EF (Hydrated Calcium Silicate) Calcium Chloride, Soda Briquettes, Modified Sodas, Caustic Ash, Phosflake, Calcene T (Precipitated Calcium Carbonate) and Calcium Hypochlorite.



INSIDE NEWS

OCTOBER

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1944



Christmas in October



Ordinarily, it's difficult to foresee the future, but here is one event we can forecast and provide for now—Christmas.

Every one of us has a son or other relative in the armed forces, or a boy from our own Company. Every one of us knows what a terrific letdown Christmas would be without a package from home.

The boys in the army and navy aren't fighting *all* the time—the long periods of inaction are monotonous and hard to bear. It's then that strange thoughts are born—"Have they forgotten me back in the office (or shop)?"—"Will I get my old job back?"—"Wonder if the old crowd are stopping in at Joe's for a beer on the way home Christmas Eve?"

Christmas is a sentimental season. It's easy to be Christmasy in December, but we have to do something about it now, in October. So let's be sweating Santa Claus and

do our Christmas shopping—and mailing—now.

First, decide what you think the boy would like—books, candy, cake, razor blades, tooth and shaving creams, etc. Then talk to the special departments that all the larger stores maintain. They will not only suggest things you might overlook, but will tell you how to pack it or do it for you.

But you must initiate the move. Don't wait till Christmas and then be sorry you forgot.

We are publishing this message to you in the pages of your business paper with the belief that you read it in your office, where you can do something about it. Evening newspapers, magazines, and radio are read and heard at home and their messages must be remembered and carried to the office. But if you are reading this in your office, pick up your phone and order those Christmas packages now! 760

Ultraviolet Sterilization

A method has been developed for sterilizing and concentrating pineapple and other fruit juices at a temperature which will not destroy the nutritional value or the flavor. The method is based on the use of ultraviolet radiation to sterilize the air in the room in which the juices are processed, and also to sterilize the juice itself. The juice is passed in a very thin film flowing under the sterilizer lamps, and then goes directly to the vacuum evaporator, where concentration is assisted by agitating the juice with dry ice which also has been subjected to the ultraviolet sterilization. 761

Biscuit Packing

A machine has been patented which rapidly counts, arranges and stacks ready-to-bake biscuits or similar articles, preparatory to packaging or sealing in cans. 762

Polishing Cloths

Polishing cloths or rags intended primarily for use on metals often consist of woolen fabrics which have been saturated with fatty oil, mineral oil, paraffin, or a mixture of these, containing in suspension a very finely powdered abrasive such as tripoli or infusorial earth. Suspensions of abrasive in soap solutions, pine oil, ammonia, etc., have also been used. 763

Fire Extinguisher

A product made by agitating the root of the African plant *Randia vestitia* in water forms a foam that is finding commercial use as an excellent fire extinguisher. 764

Bamboo Possibilities

American-grown bamboo poles, not acceptable before the war where long smooth surfaces were desired, now compete with imported bamboo by a process of impregnating the stalks with a plastic material. Bamboo pulp shows experimental promise for making thin white paper as for cigarettes. 765

DDT for Moth Proofing

The new synthetic insecticidal raw material, DDT, which is finding extensive wartime use as the toxic ingredient in Army louse powder, is also indicated to have useful applications as a moth proofing agent. Wool treated with a water emulsion, containing an extremely dilute concentration of DDT has been found to be resistant to carpet beetle larvae. Underwear treated with the emulsion was found to retain its protective qualities even after repeated washings with soap and water over a period of several months. 766

Fanweed Oil

Fanweed Oil, a high grade vegetable oil, has unusual properties, making it suitable for special lubricants in addition to its value

for its drying properties in paints, lacquers and as a purified salad oil. Fanweed contains 30 to 40% oil and can be produced in unlimited quantities. Test plantings at Montana State College show a yield of 500 lbs. per acre. 767

Fish Oil

The Florida Agricultural Experiment Station suggests a combined fish oil, using cod liver oil high in vitamin D but low in A with shark liver oil for which the reverse is true for a balanced vitamin oil. 768

Pineapple Development

According to an official report, Brazil has been experimenting for several years crossing existing varieties of pineapple with wild varieties to produce a thornless variety. The state of Sao Paulo is favorable for pineapple culture. 769

Motor Lubricants

An improved pour-point depressant for motor lubricants has been developed by a large chemical manufacturer. The producer states that the product is priority-free and offers the advantages of improved pour-point stability, satisfactory winter storage and pourability at below zero temperature. 770

Cane Wax

Cane wax made in processing sugar cane is now in commercial production in Australia. The small production so far is taken by the government. 771

Citrus Pectate Pulp

Citrus Pectate pulp is solving the problem of storing and shipping synthetic rubber which tends to flow and stick to the walls of shipping containers. The rubber adheres to the pectate pulp film eliminating adherence to the containers. The pulp film forms a minute and entirely innocuous constituent of the rubber. 772

Soilless Farms

Soilless Farms are being established in barren south Pacific islands to provide fresh vegetables for GIs and the Air Force. The army is establishing hydroponic specialists for these projects. 773

Radio Protects Your Breakfast

Radio frequency conductivity measurements will tell the age and condition of shell eggs more quickly and much more accurately than methods now in use. The tests can be applied to fresh eggs or to those held in storage. 774

Clean Ships for Fish

Fish will reach the canning plants in better condition when the holds and decks of the fishing boats are properly cleaned and sterilized. Formaldehyde was used for this purpose some years ago, but has largely been replaced by "free-chlorine" compounds. Re-

NATIONAL CAN



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Technical Topics

cent Canadian tests show that the trend to chlorine compounds has been unfortunate, and formaldehyde solution, 9 parts per thousand, is more effective. The corrosive action of the formaldehyde on metal parts can be inhibited by additions of $\frac{1}{2}$ part per thousand of sodium nitrite, without destroying the bactericidal power of the solution.

The surfaces to be treated must be scrubbed clean of adherent protein and fatty residues.

Coffee Extract

The problem of maintaining a desirable flavor in quickly soluble coffee powder has been receiving the attention of food technologists for a long time. One of the latest in the series of patents on coffee powder is based on the idea of leaving in the natural coffee oil that is usually removed because of its tendency to rancidity.

It has been found that by hydrogenating some of the coffee oil, and also including this in the product, the natural coffee oil, with its contribution to the flavor, can be kept from becoming rancid. Other hydrogenated vegetable oils may be substituted for the hydrogenated coffee oil, but the latter is preferable.

Condensed Milk for Ice Cream Making

In making ice cream and candy it is of advantage to use a highly concentrated condensed milk with a low lactose content. But the condensed milk with lactose removed has a tendency to thicken very rapidly and to a high degree, so that it cannot be stored for long periods before use. It has been found that when cane sugar or dextrose is added to the milk during processing, so that the final product has a high content of sugar in the water and sugar portions, the low lactose skimmed milk remained sufficiently fluid for use even when it is stored for considerable periods at a temperature of 50 degrees F., or below. This sugar, of course, can be figured in the final mix.

Vitamins in Sweets

Following the idea of making your vitamins easy to take, as well as that of adding vitamin concentrates only to products which will stand up well under storage conditions, the National Research Laboratories of Canada have studied the effects of the conditions of storage on the stability of ascorbic acid in candy coated chewing gum, hard candy, orange concentrate tablets and in commercial jams. All of these maintain a fair degree of vitamin potency when subjected to controlled storage tests. Up to 75 degrees F. storage temperature, and relative humidity also in the range of 75% or more, the fortified sweets were satisfactory. The hard candies with added ascorbic acid seemed to be preferable to the natural concentrates of orange juice, although it is suggested that improved processing would make the natural concentrate tablets more desirable.

BIOTIN—Biotin, found in egg white, tears, saliva and other secretions, with avidin, also in egg whites, etc., as a carrier, is a new clue to the action of lysozyme, a bacteria dissolving substance known to be present in egg white.

AIR STERILIZERS—Sprays consisting of hexyl-resorcinol in propylene glycol are proving effective in the sterilization of air. Hypochlorites and hypochlorous acid have also been used successfully. One gram of propylene glycol dispersed as vapor in 5 or 10 ml. of air and 1 gram of triethylene glycol vapor in several million ml. of air were found to kill pathogenic respiratory bacteria and the virus of influenza in air in seconds or minutes.

VANILLIN—The chemical vanilla, has been found present in amount 3.2 to 6.4% of tung nut shells. This is due to the high percent of lignin in the shells.

RICE BRAN OIL—Interesting properties are planned in a new patent for rice bran oil particularly when sulphonated. Cosmetic uses are stressed.

N.D.G.A.—A new substance for preventing rancidity, already used by the armed forces for preserving fatty foods, is nordihydroguaiaretic acid called N.D.G.A. It is obtained from the Cresote bush *Larrea Divaricata* which grows in semi-arid regions of the United States. It is a white crystalline non-toxic substance.

OXIDATION OF PARAFFIN WAX—In a commentary on the work that has been done to produce fatty acids through oxidation of paraffin wax and similar fractions, the prediction was made that fatty oils synthesized from these fatty acids and glycerol may be made from propylene that are suitable for use in human food.

DENTAL-FILLING CEMENT POWDER—(Aluminum oxide, felspar, calcium fluoride, silica, zinc oxide, and manganese dioxide) which is set by mixing with a liquid (phosphoric acid, zinc oxide, zinc phosphite and aluminum phosphate) is improved by reinforcing with a 275-mesh powdered metal or alloy or mixtures (steel and palladium, stainless steel and silver, manganese and iron), according to a British patent.

IRON PRECIPITATION—Prevention of the precipitation of iron held in solution in water and the consequent discoloration of the water is claimed in an English patent to be achieved by the addition of a small proportion of a molecularly dehydrated alkali-metal phosphate. Sodium hexametaphosphate 1:1 relative to parts of iron per million prevents precipitation and reduces discoloration to a minimum; in the proportion of 4:1 all discoloration is prevented.

LITHARGE—Combined progressive melt-

ing and oxidizing of lead to form lead oxide (litharge) are the features of a recently reported English patent. A heated oxidizing gas, derived from one source is employed, to act upon the atomized lead particles as they pass through a conduit of such length that all the lead is burned in transit and the oxide is free from metal.

TECHNICAL SULPHURIC ACID—In 2% to 2.5% aqueous dilution is reported to be effective and less injurious than copperas, chlorate of soda, or calcium cyanide, as a weed-killer in onion seeding beds.

VITAMIN C IN BEVERAGES—D-isoscorbic acid will protect the vitamin C form, L-ascorbic acid, from oxidation in water solutions, because of its greater oxidation rate. Test solutions were buffered to pH 4 with secondary phosphate and citric acid, then bottled and pasteurized in a manner similar to the usual process for beverages.

EDIBLE LINSEED OIL—Canada does not produce many oil seeds except flax, so that attempts to produce an edible oil from the latter have been renewed during the present shortage. The disadvantage lies in the fact that when linseed oil is hydrogenated to an iodine value between 75 and 100, in the range of the usual commercial shortenings, there is a rapid development of an unpleasant flavor on heating. When it is hydrogenated beyond this point, to an iodine value of about 40, the flavor difficulty is overcome, but the product is too hard to be used as shortening, unless blended with a liquid oil such as cottonseed. Blends of linseed oil (about 25%) with cottonseed oil or with sunflower oil have been hydrogenated to a fairly satisfactory product.

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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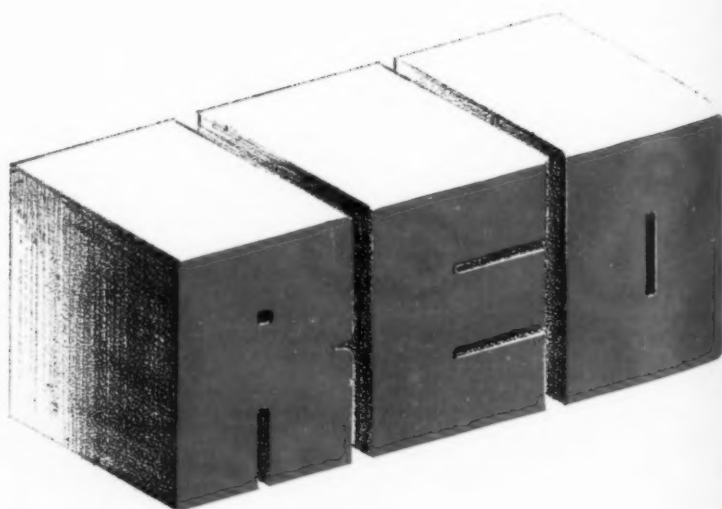
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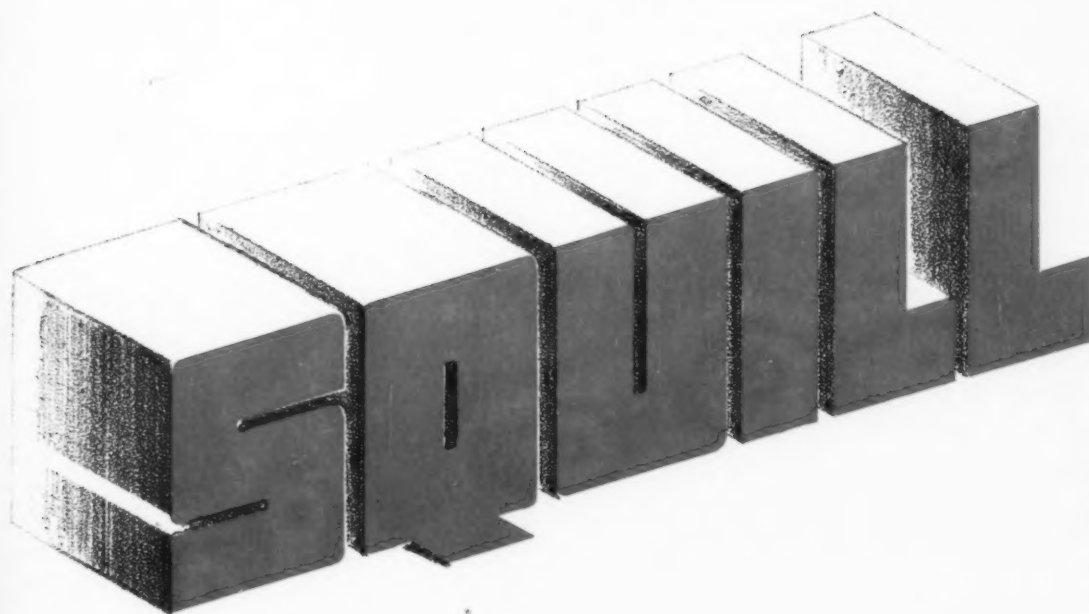
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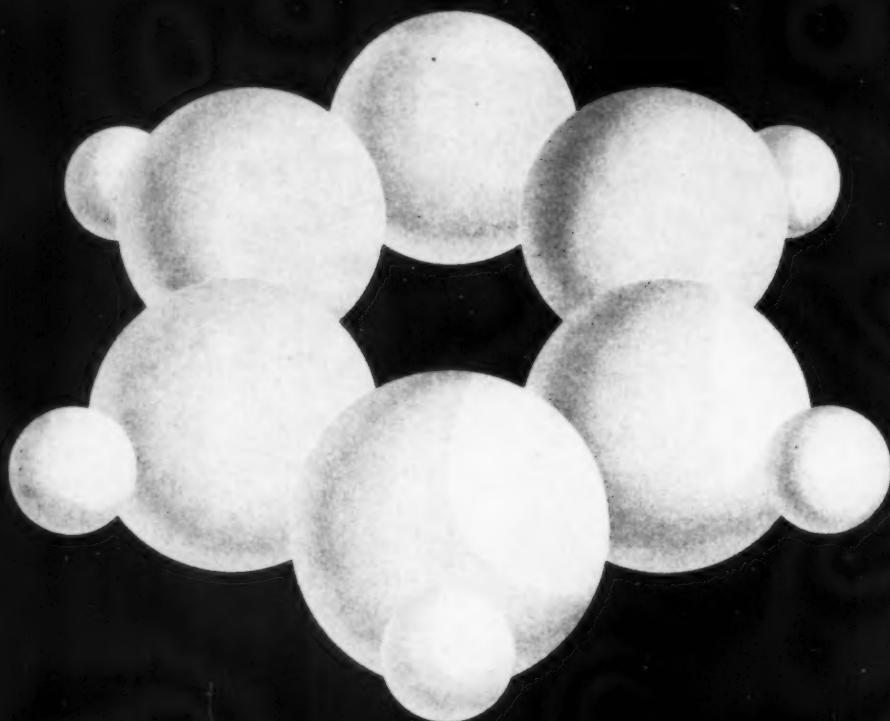


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Although our three plants are all busily engaged in filling war orders which must take precedence over civilian requirements—we want our customer-friends to know that we are still in a position to satisfy their civilian needs and supply them with COLE Products in limited quantities. Despite these action-packed days, you can rest assured that COLE Products continue to represent the utmost in quality—because step by step, COLE Products are protected by continuous LABORATORY-CONTROL.

Pine Oil
Scrub
Soap



For prices and literature, write Dept. S.C.

COLE LABORATORIES
23d St. and 37th Ave. • Long Island City, N. Y.

BOCENE

Effective Fly Spray Deodorant

Here's a quick, easy way to make your fly spray more attractive and much more in demand. Just add BOCENE, the amazingly effective deodorant that completely neutralizes the odor of Lethane, Kerosene, Pyrethrum and Thanite. BOCENE does two jobs at once. As it neutralizes the unpleasant chemical odors, it also adds a pleasing flower note to the spray. BOCENE is especially economical because a little goes so far. Only 0.05% (3/16 oz. or 2 cc) is needed for a full gallon of finished spray—at a cost of approximately 1.5¢ per gallon. Write us today for complete prices and further details.

AROMATIC PRODUCTS, INC.
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Whatever your requirements in the field of perfume and deodorant oils, our factory and laboratories are fully able to service them. All of our products are designed and produced with a complete understanding of the job each one has to perform. That means they are thoroughly tested in the finished type of product for which you intend to use them. If the product you manufacture calls for a perfume or deodorizer, let us help you select the proper one for your needs. We will be glad to send you prices and further details for your consideration.





Select the Toxic Agent for your 1945 fly and cattle sprays NOW!

A return to pre-war conditions in the Insecticide Industry cannot be expected too quickly. Scarcities will still exist. Production will still be difficult. Early planning will be necessary.

We are proposing to increase the production of Hi-Tox in 1945. Yet, that we may take care of all those manufacturers who will find Hi-Tox to be a top concentrate, it will be a decided advantage for you to place your contract with us for Hi-Tox for 1945 delivery NOW.

Write our office nearest you for prices, samples and other data.

Stocks carried in Chicago and New York.

Remember—Hi-Tox for fly and cattle sprays—Morticide for the control of bed-bugs and other crawling insects—Mortolin for moth proofing compounds of proven efficiency.

Associated Chemists, Inc.



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1944



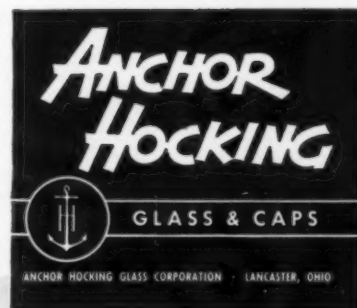
OTHER MANUFACTURERS TELL
US THEY GET BETTER PRODUCTION
WITH YOUR CONTAINERS AND
CLOSURES. WHY IS THAT,
MR. JARRETT?

THERE ARE
A VARIETY OF
REASONS

Rigid manufacturing specifications—improved methods—careful specification of raw materials—accurate temperature control in the annealing operation—uniform distribution of material—scientific engineering and design—constant research—the skill of veteran glass workers—those are some of the reasons why Anchor Hocking containers help production for manufacturers who use them. For those reasons Anchor Hocking containers are exceptionally strong, safe and economical to handle, light in weight, yet tough enough to resist the shocks of production, handling and transportation. Anchor metal and plastic caps also contribute materially toward better production records. Among the five easy-to-apply types (Amerseal, C.T., NKCT, Tricon and Plasticap), you're sure to find one or more ideally suited to your production and protection requirements; all provide dependable, airtight and leakproof seals that protect products from evaporation and deterioration until entirely consumed.

"Meet Corliss Archer" every Thursday evening, entire coast-to-coast network CBS

W. A. JARRETT, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 15 years.



WOMEN PREFER

INSECTICIDES IN CANS

FOR THESE
5 MAJOR REASONS!

Vital buying factors revealed by consumers in nation-wide home survey

1. **SAFETY** . . . Cans are safer—they don't break, chip, leak or tear.
2. **HEALTH PROTECTION** . . . Cans are sealed better—less chance of dangerous leakage.
3. **QUALITY PROTECTION** . . . Protect insecticides from air- and light-induced chemical changes.
4. **CONVENIENCE** . . . Cans are easier to handle, to store, to open, to dispose of.
5. **ECONOMY** . . . Cans are less expensive.

● Yes, consumers find more sound reasons for preferring the can than any other container. And of course your profits depend on the likes of consumers! Right now they gladly put up with the inconveniences of wartime substitute packages. But they'll hail the day when cans are back and they can once more buy their favorite brands in the familiar steel-and-tin containers.

Big National Advertisements Increase Public Preference for Cans

Powerful advertisements in full color are now selling consumers the advantages of cans. Every month, about 30,000,000 printed messages are

telling nearly every literate family why the can is an ideal container. Watch leading Sunday newspapers and the ten great national magazines listed here.

PUBLICATION	CIRCULATION
Ladies' Home Journal.....	4,136,747
McCall's.....	3,535,700
Saturday Evening Post.....	3,475,822
Good Housekeeping.....	2,690,373
American Magazine.....	2,556,469

PUBLICATION	CIRCULATION
Better Homes & Gardens.....	2,479,448
American Home.....	2,363,796
True Story.....	2,073,531
Look.....	1,919,130
Liberty.....	1,155,727

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Bobrick Customers Know We Are Serving Two Masters

When war broke out in 1941, BOBRICK along with thousands of other loyal manufacturers pitched in to help Uncle Sam.

The demands of the Army Air Forces came above all else. Precision hydraulic valves for B-24 Liberator Bombers took the place of BOBRICK Soap Dispensers, and ever since we have been making every conceivable effort to do a good job.



Now . . . we are doing a *double job*—serving **TWO** masters—still making precision hydraulic valves for Uncle Sam but also promoting cleanliness and good health on the *home front* by furnishing BOBRICK dispensers.

B-24 Consolidated Liberator—In 1940, the B-24 weighed 41,000 pounds. Today it weighs 65,000 pounds, over 50% increase. From six machine guns to over a dozen in four power turrets, with bullet-sealing fuel cells and ten tons of bombs.

And Here Is the Famous Pre-War Bobrick No. 13 Liquid Soap Dispenser

— low in price — tops in performance — and with all of the exclusive features that make BOBRICK the biggest value for the money.

CHECK THESE EXCLUSIVE FEATURES

Unbreakable plastic body	Globe cemented to Body
Fastens to wall with Steel Back Plate	Steel Reinforced Bracket
Duraglas Globe—toughest and strongest	Fills from top
Famous Bobrick Pre-War Push-Up Valve	



Bobrick

MANUFACTURING CORPORATION

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Write for Prices and Quantity Discounts



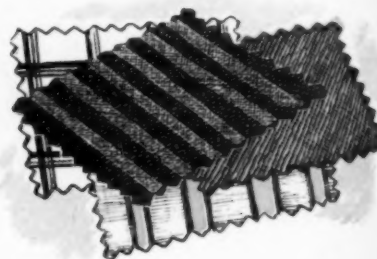
... A brilliant record in the field of research

"Hercules outstanding record in the field of terpene and rosin chemistry was made possible by the teamwork of operating men and a laboratory staffed by industry-minded research chemists, physicists, and chemical engineers. They transformed wood rosin, wood turpentine, and little-known pine oil into an array of purified products, tailor-made for special purposes, that today are indispensable to scores of the nation's leading industries.

"A trip through this splendid laboratory is a thrilling experience. Here one finds superb equipment, equalling the finest of the great American and European universities."

DAVID DIETZ, *Science Editor of the Scripps-Howard Newspapers, Author, and Pulitzer Prize Winner*

LESS THAN A POUND of a special Hercules resin enables a ton of concrete to defy the powerful force of frost and thaw. Sea walls, highways, airport runways, or the cement walk in front of your home can now remain stronger, smoother, thanks to Hercules Vinsol®.



SAVING TIME AND MANPOWER for the textile industry at virtually every processing step is Hercules Yarmor® 302-W Pine Oil. In one large textile mill alone, this specially designed product cut a four-hour operation to two hours and with a cash saving.

CONSERVING CRITICAL MATERIALS is but one important contribution of Hercules Poly-pale® resin to varnish resin producers. This polymerized rosin is permitting savings of glycerin and other scarce materials as high as 30% without sacrificing quality.

LONGER LIFE FOR ADHESIVES is but one of scores of product advantages gained with Hercules Staybelite®, another rosin chemical. Its ability to retain a tacky nature indefinitely is important to modern surgical and industrial tapes, masking compositions, and many other adhesives.



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TERPENE AND ROSIN
CHEMICALS



* REG. U. S. PAT. OFFICE BY
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HERCULES POWDER COMPANY

INCORPORATED

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N-41

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ZIP-ON Rubless FLOOR WAX

AN especially high-grade emulsion wax for the trade . . . designed for easy and fast application . . . giving high gloss . . . unusually water resistant . . . maximum non-skid properties . . . will not jell or become pasty in storage . . . gives a durable and attractive finish . . . can be sold to industrial and institutional customers with full confidence . . . write us for sample and prices . . .

* * *

Our full line of floor-treatments also includes paste and liquid solvent waxes, floor sealers, gym finishes, etc., as well as metal and furniture polishes . . . we specialize in bulk and private brand products for the trade.

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SHAWMUT SPECIALTY CO.

313 CENTRE STREET

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entirely of coal tar origin

Cresols & Cresylic acids

For all grades, tar acid contents are guaranteed not less than 99%. Total impurities other than water do not exceed 0.50%. Water content does not exceed 0.50%. Color is light if shipped soon after production and odor is clean and substantially free from sulfur contamination.

Subject to allocation,
there is available:

USP Cresol for Liquor Cresolis Saponatus, USP

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Special cresols for health soaps

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Cresylic Acid appropriate for any purpose for
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RED SQUILL—DETHDIET BRAND—is FOUR TIMES MORE POTENT than the Red Squill generally available in recent years.

The material we now provide not only meets the standard established by the Fish and Wildlife Service of the Department of the Interior, but actual reports from the field confirm the striking toxicity of this newly developed Red Squill.

The present rat control campaign has a wide appeal on the basis of public health...should you not share in this sales opportunity?

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BUY WAR BONDS AND STAMPS...FOR VICTORY

Official Test Insecticide . . .

SUPPLIES of the 1944 Official Test Insecticide for evaluating insect sprays by the Official Peet-Grady Method are available from the office of this Association. The 1944 O.T.I. is priced at \$5.00 per dozen six-ounce bottles, plus shipping costs, to members of this Association. To others, there is an additional service charge of \$1.00 per dozen. Single bottles are \$1.00 each. Check with order is required.

The 1944 Official Test Insecticide is required for all official testing of insect sprays by the Peet-Grady Method for the period from June 1, 1944, through May 31, 1945.



National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street

New York

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Velsicol Insecticide Sprays



Your sprays assure outstandingly effective insect control when they contain VELSICOLS AR-50 and AR-60 as the active toxic ingredients. Velsicol sprays release a web of molecules from which very few insects emerge alive; and they accomplish these results safely, speedily, economically. These statements are based on the experience of our customers and on constant laboratory tests.



AR-50 FOR HOUSEHOLD SPRAYS

Exceptionally fast knockdown—high kill.



AR-60 FOR LIVESTOCK AND DAIRY SPRAYS

Long-lasting residual repellency.



AR-60 FOR AGRICULTURAL SPRAYS AND DUST

Solvent . . . activator . . . extender for rotenone and rotenone bearing roots.

AR-50 and AR-60 are ideal solvents, complements, and accelerators for DDT in all types of sprays.

Test the Velsicols, write for samples, formulations, and other pertinent data to

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Corporation

GENERAL OFFICES: 120 EAST PEARSON STREET, CHICAGO



PLANT MARSHALL, ILLINOIS

Say you saw it in SOAP!

YOUR CUSTOMERS WILL BE DELIGHTED
THIS FRAGRANT, BUT WHITE, LIGHTFAST
PERFUMED LITE WAX FOR PERFUMING
AND OTHER SPECIAL REQUIREMENTS OF
PERFUMES. WINTER-PHENE'S DELICIOUS
SMELL ITSELF.

Winter-phene

DESCRIPTION:
ODOR: FRESH, CLEAN
COLOR: BRILLIANT WHITE
TOXICITY: LOW, THE RESOL COMPOUND
SOLUBILITY: PERFECTLY SOLUBLE IN
WATER
WEIGHT: 85 POUNDS PER GALLON
REODORANT: ABSOLUTELY DEODORIZES AND
DISPERSES ALL UNDESIRABLE
FREEZING POINT: ABOUT 10° F.
SHIPPING CONTAINERS: 5, 15, 30, 55 GALLON
IRON CONTAINERS
AVAILABILITY: IMMEDIATE SHIPMENT IN ALL
QUANTITIES
SINCE 1900, STATH LAUREN
AND

Org
Agr
Med
Pop
Org
Tum
Dise
TI
sub
bret
flask
myc
folia
met
5.00
Sub
Resu
W
Ph

INTERDIGITALE

FUNGICIDAL TEST

METHOD OF KLARMANN, SHTERNOV, and COSTIGAN

Organism—*Epidermophyton interdigitale*

Age of culture—10 days at 28 degrees C.

Medium—2% dextrose and 1% peptone broth (pH 5.6—5.8)

Peptone—Armour's Special

Organic matter—none

Temperature of medication—20 degrees C.

Dose—0.5 cc. of standard inoculum added to 5 cc. of diluted disinfectant

The standard inoculum is prepared by growing the organism on a sub-stratum of glass beads almost immersed in dextrose-peptone broth for 10 days at 28 degrees C. at the end of which time the culture flask is stoppered and shaken vigorously for 5 minutes to break up the mycelial mass, after which 15 cc. of sterile saline solution is added, followed by shaking again for 3 minutes, filtering through a 200 mesh metal sieve and adjusting with saline solution so that one cc. shall contain 5,000,000 spores.

Sub-cultures—one 4 mm. loopful added to 10 cc. of the dextrose-peptone broth

Results:

Sample	Dilution	Minutes of Exposure		
		5	10	15
Winter-phene	1:50	—	—	—
Phenol	1:80	—	—	—
	1:90	—	—	—

RUBRUM

FUNGICIDAL TEST

METHOD OF KLARMANN, SHTERNOV, and COSTIGAN

Organism—*Epidermophyton rubrum*

Age of culture—10 days at 28 degrees C.

Medium—2% dextrose and 1% peptone broth (pH 5.6—5.8)

Peptone—Armour's Special

Organic matter—none

Temperature of medication—20 degrees C.

Dose—0.5 cc. of standard inoculum added to 5 cc. of diluted disinfectant

The standard inoculum is prepared by growing the organism on a sub-stratum of glass beads almost immersed in dextrose-peptone broth for 10 days at 28 degrees C. at the end of which time the culture flask is stoppered and shaken vigorously for 5 minutes to break up the mycelial mass, after which 15 cc. of sterile saline solution is added, followed by shaking again for 3 minutes, filtering through a 200 mesh metal sieve and adjusting with saline solution so that one cc. shall contain 5,000,000 spores.

Sub-cultures—one 4 mm. loopful added to 10 cc. of the dextrose-peptone broth

Results:

Sample	Dilution	Minutes of Exposure		
		5	10	15
Winter-phene	1:50	—	—	—
Phenol	1:80	—	—	—
	1:90	—	—	—

COMMENT: Several strains were used, but none reached the required strength against phenol. The other three molds all have the required resistance.

GYPSEUM

FUNGICIDAL TEST

METHOD OF KLARMANN, SHTERNOV, and COSTIGAN

Organism—*Trichophyton gypsum*

Age of culture—10 days at 28 degrees C.

Medium—2% dextrose and 1% peptone broth (pH 5.6—5.8)

Peptone—Armour's Special

Organic matter—none

Temperature of medication—20 degrees C.

Dose—0.5 cc. of standard inoculum added to 5 cc. of diluted disinfectant

The standard inoculum is prepared by growing the organism on a sub-stratum of glass beads almost immersed in dextrose-peptone broth for 10 days at 28 degrees C. at the end of which time the culture flask is stoppered and shaken vigorously for 5 minutes to break up the mycelial mass, after which 15 cc. of sterile saline solution is added, followed by shaking again for 3 minutes, filtering through a 200 mesh metal sieve and adjusting with saline solution so that one cc. shall contain 5,000,000 spores.

Sub-cultures—one 4 mm. loopful added to 10 cc. of the dextrose-peptone broth

Results:

Sample	Dilution	Minutes of Exposure		
		5	10	15
Winter-phene	1:50	—	—	—
Phenol	1:80	—	—	—
	1:90	+	+	—

Baird & McGuire, Inc.

HOLBROOK, MASS.

ST. LOUIS, MO.

SANITARY PRODUCTS

their manufacture, testing and use

By Leonard B. Schwarcz

CONTENTS

Sanitary Products Industry — reviewing the type firms in the industry, the products they manufacture, and their annual value.

Discovery of Bacteria—historical background on the germ theory of infection.

Principles of Disinfection — the role of chemical preparations in disinfection; definition of disinfectant terms.

Coal Tar Disinfectants—a review of their manufacture and use.

Cresol Compounds — Liquor Cresolis Compositus, B.A.I. Compound, petroleum-type cresylics.

Pine Oil Disinfectants—manufacture, properties and uses.

Hypochlorites—manufacture, properties and uses of chlorine disinfectants.

Formaldehyde—its applications in the disinfectant field.

Oil Soaps—manufacture, sale and use of jelly soaps, green soaps, auto soaps, floor scrubbing soaps, etc. Special attention is given to manufacture of oil soaps from fatty acids.

Liquid Soaps—The case for liquid soaps for wash-room use. A review of raw materials, manufacturing methods, use, etc., with special attention to the problems of clarity, concentration, dispensing equipment, etc.

Soap Dispensers—a review of the common types of liquid and powder soap dispensers, push-in, push-up, tilt, goose-neck, pullman, etc.

Floor Waxes—A review of raw materials for floor wax manufacture and a study of manufacture and application of liquid waxes, paste waxes, water-emulsion waxes.

The Insect Problem—A review of the general role which insecticides must fill in man's battle against the insect world.

Pyrethrum Insecticides—The important place that pyrethrum has taken in the manufacture of non-poisonous insecticides. Manufacture, testing and use of pyrethrum insecticides are reviewed.

Rotenone Materials — Occurrence and toxicity of rotenone, and its use as an insecticidal raw material. Comparisons with pyrethrum on toxicity and deterioration.

Synthetic Insecticides—The most complete review yet published of the chemical nature, characteristics, and use in insecticides of a dozen synthetic materials.

Activators—The action of activators in stepping up insecticide toxicity. A study of activators which are in current use.

Roach Control — Roach powder formulation. The role of sodium fluoride and borax.

Bedbug Liquids—Control methods and special preparations.

Livestock Sprays—Manufacture and use of cattle sprays, with particular emphasis on repellency, application and choice of oil base.

Sprayers—A review of hand, continuous and electric types. Applicators for aerosols are also discussed.

Moth Preparations — Use of paradichlorobenzene, naphthalene, cedar preparations, etc., in moth control. Cautions on labeling.

Deodorant and Urinal Blocks—Para vs. naphthalene blocks. Pressed vs. molded blocks. Perfuming, wrapping, etc.

Labeling and Packaging—The most complete review ever published of the obligations of the sanitary products manufacturer under the Insecticide Act of 1910, The Caustic Poisons Act, The Federal Trade Act, the Food, Drug and Cosmetic Act and the various state laws. Typical decisions of the AMA and the FDA in reviewing offending labels are presented, along with sample labels of approved content.

Appendix—Complete text of Insecticide Act of 1910, Caustic Poisons Act, Peet-Grady Test for Insecticides, FDA Method for Disinfectant Testing, Mercury Reduction Method, Seil Method, NAIDM Specifications, list of approved antidotes.

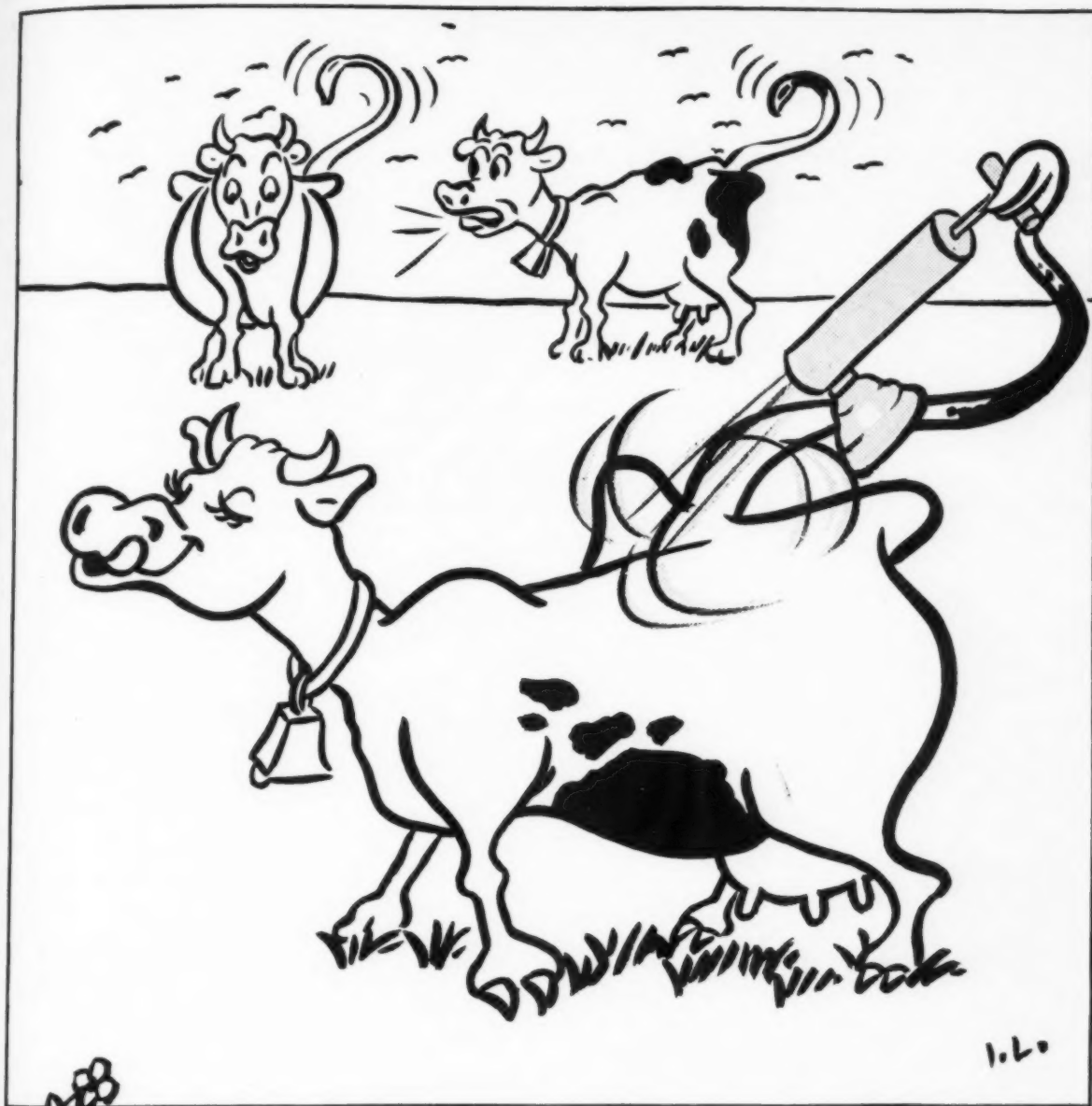
SANITARY PRODUCTS has standard high-grade book binding, cloth and board covers, 6 x 9, 312 pages. Priced at \$5.00 per copy. Check must accompany order. Orders for books to be sent on approval cannot be accepted, but the usual return privilege will be accorded where copies are returned unmarred within 10 days. Owing to present conditions, the first edition must be limited. Accordingly an early order accompanied by check is suggested.

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254 West 31st Street

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"I tell ya Bessie—we're missing something!!"

**Magnus
Means
Reliability**



And maybe you're missing something too, if you haven't sampled Deodorant L44 MM&R. It's new, utterly different . . . a combination neutralizer and perfume for fly sprays. • It has a significantly different modern fragrance of pleasing lightness. Wonder of it all is that so light an odor does such a remarkable neutralizing and perfuming job. • Expensive? Not in the least. In fact, truly economical, like all MM&R Spray Deodorants.

Write today for free testing sample.

MAGNUS, MABEE & REYNARD, INC.

SINCE 1899... ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS
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October, 1944

Say you saw it in SOAP!

103



1945 PLANS



With the 1944 insecticide season approaching its close, most manufacturers are breathing sighs of relief that they have been able to cope as well as they have with well-nigh impossible conditions, and wondering whether the next season will bring improvement or just more problems.

Happily, the signs point to somewhat easier conditions, even though it is too early to be specific as to dates or details. Still, a reasonable degree of optimism is permissible.

Most manufacturers, therefore, will be inclined to delay definite decisions and commitments to the last possible moment in order to be in a position to take full advantage of any last-minute favorable turns in the raw materials or containers field.



★
DODGE & OLCOTT COMPANY

180 VARICK STREET • NEW YORK, N. Y.
BOSTON • CHICAGO • PHILADELPHIA • ST. LOUIS • LOS ANGELES
Plant and Laboratories: Bayonne, N. J.

SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication National Association of Insecticide & Disinfectant Manufacturers

REPORTS from Washington indicate that the Insecticide Act of 1910 is going to be rewritten, revised and brought up to date. That it may be several years before this revision is completed and becomes law is likely. The need for a new Insecticide Law has been apparent for some time past and has been discussed pro and con in the industry for ten years or more. But as in the case of rewriting the old Food and Drug Law which stretched over a period of five or six years, actual passage and enforcement seldom follow closely after need for a new law is evident. And the longer the old law has been on the books,—thirty-four years in the case of the Insecticide Act,—the longer the revision usually requires. All branches of the insecticide and disinfectant industries along with the Department of Agriculture will undoubtedly be given an opportunity to present their views when the time comes. Several sharply controversial points will have to be settled. But, nevertheless, there is every reason to believe that not too long after the war ends, a new federal insecticide act will be in force.



FEW if any dissent from the view that post-war markets for all types of insecticides are going to be greater than they are today and far greater than they ever were before the war. Broad publicity growing out of the war has developed a wider insect consciousness in the United States that offers the opportunity of a lifetime to the insecticide industry. But the products must do the job for which they

are bought. One bad product can undo the work of a hundred good ones. The faker who would cash in on a few quick dollars must not be permitted to get a start or the opportunity can be killed. It is something for the post-war planners to think about.



IF THERE is a complaint anywhere around, invariably it will find its way to some editor's desk. In the course of the year, plenty of of them are heard. Some are just; others are not. The latest one to drift in here has to do with the quality of some deliveries of dishwashing compounds bought by government departments. The gist of the complaint is that some small and inexperienced firms are taking government contracts and, finding them too large or difficult to handle, and in order to make delivery dates, are not too particular in meeting specifications but are delivering whatever they can work up which comes close to the specified product. Now the serious part of this little story lies not in the seller supplying inferior goods, but in the government department accepting and using them apparently without inspection or tests to see if they do meet the specification. Although this information comes to us from an unsuccessful bidder on this particular material, we have a hunch that his shot is not far off the target. So if the shoe fits some manufacturer or government procurement bureau, we will close the book at this point with the suggestion that they put on the shoe and mend their ways. And, of course, it's taxpayers' money, so what the hell!

A. I. F. A. MEETS—RE-ELECTS CARY

MEMBERS of the Agricultural Insecticides and Fungicide Association met at the Essex and Sussex Hotel, Spring Lake, N. J., September 6, 7 and 8 for their eleventh annual meeting. The three-day session attracted an attendance of approximately 150 who heard a series of talks by government and industry speakers. Business sessions were held on the morning of each meeting day, with the afternoon being left free for golf, ocean bathing and conferences of special groups.

Among the more important topics to come before the members was the report by Harry Reed, chief of the Livestock and Meats Branch of the War Food Administration, that plans are well under way for the revision of the Insecticide Act of 1910. AIFA members were much interested in a tentative draft of a proposed new Federal Insecticide Act which was discussed by Mr. Reed in a general way, but which is not yet ready for publication. Another important development at the eleventh annual AIFA session was the decision of the board of directors to expand the membership by taking in as affiliated members blenders of insecticides who have not previously been eligible for AIFA membership. The by-laws of the association are being revised to allow for this new class of members.

The annual election of officers resulted in the return of the same slate of officers who have served over the past year. Joseph B. Cary of Niagara Sprayer & Chemical Co. was re-elected president, Harold C. Davies of California Spray-Chemical Corp., was re-elected vice-president and Lea S. Hitchner continues as executive secretary and treasurer. Members re-elected to the board include the above officers and the following additional members:

11th Annual Session Held at Spring Lake, N. J....Tentative Draft of New Insecticide Act Discussed...Rohwer Reports on New Insecticides...Rodda on insecticide raw material outlook ...and Watson on insecticide labeling

J. Hallam Boyd Commercial Chemical Co.; Eugene T. Doyle, Tobacco By-Products and Chemical Corp.; George F. Leonard, Tobacco By-Products and Chemical Corp.; Howard P. Mansfield, Grasselli Chemicals Dept., E. I. du Pont de Nemours & Company; George R. Rinke, John Powell & Co.; Byron P. Webster, Chipman Chemical Company, and H. De Witt Whittlesey, The Sherwin-Williams Co.

The Wednesday morning session, September 6th, featured a talk by Prof. Ray Hutson of Michigan State College of Agriculture who stressed the importance of the correct method of application in the use of insecticides.

Professor Hutson said that while the development of insecticides and fungicides is a well advanced science, methods of applying them are "crude" and have unfortunately lagged far behind.

"If we agree that developing insecticides and fungicides is a science," he said, "we must at the same time recognize that use of these materials is an art, and that until some

science is ineradicably included in the application, we do not get the full value of our scientifically developed materials.

"Many new insecticides and fungicides which have not caught on with consumers have failed because they were expected to work when applied in exactly the same way as the possibly very different material they were made to replace.

"A need exists for greater stress in the development of machinery adapted to the characteristics of the materials. The aerosol bomb, airplane application, fish tail dusters, vapor dusters, nicofumers, the speed sprayer, the diffuser, explosive cartridges are only signposts.

"Orthodox sprayers and dusters are notoriously dependent for efficiency upon the operator. Why this is such a critical factor can be readily determined by anyone who will take the trouble to apply engineering test techniques to spraying and dusting machinery. Present indications are that the discrepancy between spraying and



JOSEPH B. CARY
Niagara Sprayer & Chemical Co.
Re-elected President



HAROLD C. DAVIES
California Spray-Chemical Corp.
Re-elected Vice-President



LEA S. HITCHNER
Re-elected Secretary-Treasurer

dusting results is largely accountable on a machine basis.

"There is an insistent need for developmental study on methods of application and particularly upon spraying and dusting machinery, with the idea of injecting some science into what is at present the crude art of applying fungicides and insecticides."

ONE of the most interesting papers read at the morning session, September 7, was a paper entitled "Looking Forward" by S. A. Rohwer assistant chief, Bureau of Entomology, and Plant Quarantine, U. S. D. A. He forecast the post-war outlook for development and application of new insecticide materials, had something to say on possible future legislation, and also called for a closer working relationship and a more sympathetic understanding between insecticide manufacturers and public officials who are charged with enforcement of the laws governing manufacture and use of insecticides and fungicides.

Speaking on the subject of legislation prescribing insecticide coloration, Dr. Rohwer commented that, while the objectives sought by such proposals are highly commendable, it should be well to keep in mind that legislation of this type is not thought necessary for all classes of poisons that are marketed for use by the public. Adding of coloring to insecticides will present many problems, he warned, and it may even alter the toxicity of the

material both to man, and the pests against which the insecticides may be applied. We cannot justly conclude, he said, that by adding a conspicuously colored substance to a white insecticide, it will not modify its usefulness as an insecticide, that the composition of the poison will not be changed, or that the warning color will persist through handling and storage.

Speaking on the question of war time insecticide shortages, he commented that it has been necessary to recommend various second or third best materials as substitutes for more effective materials which have not been available. To control some pests, certain materials having insecticidal usefulness which has not yet been fully established, have been suggested for use. Recommending substitutes and materials not adequately tested, was justifiable, he contended, in cases where desired and proven materials were not available. The various reports of unsatisfactory and even ineffective results from the use of these substitute materials is not surprising. Reactions unfavorable to insecticide use have also been encountered, he observed, where with the thought of conservation of supply, dosages close to or below the threshold of effectiveness have necessarily been suggested.

Reviewing the subject of New Insecticide Materials, Mr. Rohwer pointed out that recent research has produced a goodly number of substances or mixtures of substances, use-

ful in preventing, destroying, repelling, or mitigating noxious insects. Some of these have already been used rather extensively, he observed, and their effectiveness well established. "The combination of materials known as 'Smear 62' has had wide use for the control of screw worms in live stock. It also gives significant protection against certain other livestock pests. That it will have some extended use, as supplies needed to produce it become available for this purpose, seems assured.

"Dinitro-ortho-cresol dust has proven to be effective and satisfactory for the control of the chinch bug under a wide variety of conditions. In many localities, farmers prefer it to creosote. If supplies needed to combat an extensive outbreak of the chinch bug were available, it would, without doubt, be widely used.

"Nicotine mixed with calcium arsenate is of special significance in programs for cotton insect control. The use of this combination for this purpose is well in the infancy stage. Before it is fully established, rotenone may demand a place in the same field. Perhaps these two plant materials and calcium arsenate may be even a more effective mixture.

"Styrene dibromide has stood up well under rather extensive use to protect corn from the ear worm. As corn ear worm control becomes more general, this new insecticide may be expected to have an important place in this special field.

"There are a goodly number of promising new materials which are under test. Certain of these may be limited to special uses. All of them need to be studied further before facts needed to appraise fully their value and usefulness will be available. Such information is needed to provide a sound basis for recommendations for use.

"Mixtures prepared from sabbadilla have produced interesting results under a number of conditions, and have possible application for the control of certain pests, particularly forms which cause injury by sucking plant juices. Final results of this year's tests and other confirmatory studies may lead to including these mixtures among our proven insecticides.

"Insecticides, in which the toxic agent is DDT have been more extensively studied than other new materials during the past season. Interesting, and in some cases, significant results are indicated in the preliminary results so far available. Field trials have both confirmed and contradicted tests of the preceding season. They have also pointed out many important problems that confront those who may use this material, including how it should be formulated and applied as an insecticide. The extensive amount of work that has been done with this material assures an appraisal of the place it will have in the insecticide field. Results of the season's work are available, only in part, and for many of the experiments final reading will not be possible for some weeks. The facts now available do not warrant recommendations for the use of DDT insecticides in the agricultural field. They do, however, clearly indicate that means and facilities for more intensive and extensive tests should be available."

IT was also at the Thursday morning session that Mr. Reed spoke on WFA plans for revision of the Insecticide Act of 1910. In the many years that have passed since the Federal Insecticide Act of 1910 was adopted, he reminded, great changes have taken place in the manufacture and use of insecticides and fungicides. For a number of years, now, it has been obvious that a new act was necessary to bring the former measure up to date. A tenta-

tive draft of such a new law has been prepared which will within a short time be released by WFA for comment and criticism by those who would be affected by its provisions.

Such a statute must be simple, said Mr. Reed—first, so that it can be readily understood by all affected, and second, so that it can be efficiently administered. A good regulatory act should contain no provisions that will work a hardship on anyone who is trying to do a reasonably good job, he believes. The tentative draft that has been prepared is reported to keep to these fundamentals. Its principal requirement is that labels on insecticides and fungicides moving in inter-state commerce must be truthful, and carry such information as is necessary to their proper use or application.

The proposed new law would broaden materially the scope of control, as compared with the present act. The tentative draft is worded so as to apply to manufacturers of insecticides and disinfectants used on live stock as well as products for use solely on plants. There have been substantial changes in the industry since 1910 when the most important insecticides were paste, lead arsenate and paris green. At the time the 1910 act was passed, calcium arsenate was not in use, rotenone insecticides were unknown, and little work had been done on synthetics. The new act is broad enough to cover all these as well as other new products that will be offered in the post war period. The tentative draft covers "all substances used in combatting those forms of plant and animal life which the Secretary of Agriculture may find and declare to be a pest." The act also applies to rodenticides.

It is recognized, said Mr. Reed, that insecticide manufacturers have encountered many difficulties as a result of the multiplicity of provisions of state laws, but such multiplicity has often been occasioned, in his opinion, because of fundamental omissions from the federal statute. The present act, for example, does not require a poison warning nor an antidote statement. The tentative draft of the new law provides for both the poison warning and antidote statement for any economic

poison which the secretary determines to be highly toxic to man. The tentative draft also provides for distinctive coloring of white powdered economic poisons unless such coloration is unnecessary for the protection of the public health, or is impractical.

The new act also provides for the registration of products with the control agency. Such registration would be something more than the usual perfunctory listing of a trade name, and it is the WFA proposal to permit registration of products "only when it appears reasonable to believe that the product will be effective for the purpose for which it is intended." This will not necessarily require that each manufacturer carry out his own experimental work, as experts within the administration should be able to pass on claims on types of materials which have already been adequately tested by state or local authorities. On the other hand, if a new product or one intended for an unusual purpose is to be put on the market, the new law would require that it be fully tested by the manufacturer before being marketed.

ANOTHER speaker at the Wednesday morning session was Warren N. Watson, secretary of the Manufacturing Chemists' Association, who discussed "Labels and Precautionary Information." With the constant introduction of new products, and the development of new uses for old products, the problem of informing the user on cautions and information for handling the use becomes of increasing importance, he observed.

"A new product requires careful study of its properties by the producer before introduction. This of course requires toxicological tests, which are time-consuming and costly, but necessary before a product is put on the market. Agricultural Experiment Stations and plant pathologists commonly request experimental samples of new products for testing even before the toxicological investigation is completed. In this case it is a clear responsibility of the producer to warn these scientists that the toxicological properties are not known."

(Turn to Page 110)

The Outlook For Insecticide Raw Materials

By John Rodda*

Chemicals Bureau, Inorganics Branch
War Production Board

FOR the past three years we have been struggling with raw materials shortages . . . with allocations and directives . . . with interim allocations and stockpiles . . . with price regulation . . . They are necessary evils, all of them—while wartime shortages continue. We have grappled with those which concern us to the best of our ability, estimating the supply of each material month by month or quarter by quarter and dividing it up among all the various claimant agencies.

You are all aware from what you have read in the papers that the War Production Board has its reconversion plans well advanced. In preparation for the change-over from war to peace a number of studies have had to be made. We are now in the process of revising our stockpiling requirements to make sure that our reserves will not be too large at war end. We have been going over every order, one by one, to see which can be revoked when Germany falls. Naturally, I cannot tell you the final results of this analysis. But I will tell you some of the considerations which have influenced our thinking.

I would like for a moment to review the supply outlook for the various raw materials which are under control and to attempt to outline future supply prospects. Perhaps, the most spectacular material which has come to the attention of the agricultural insecticide and fungicides industry during the war has been DDT. It is with pride that our Unit tells you

of the production record which has been achieved by the American chemical industry. From a humble beginning of a thousand pounds of DDT during the month of April 1943, our actual production in the month of August 1944 was 1,400,000 lbs. Before the end of the year, it is our hope that the production rate of DDT will be upward of 2,000,000 lbs. per month.

The greater share of DDT is still going to the military for their direct use, but with the gradual liberation of occupied territories in the war theaters, greater quantities of DDT will, of necessity, go to these uses. However, it is quite possible that by the spring of 1945, there will be DDT available in excess of military needs as we now know them and we have reason to believe there will be adequate amounts for large experimental research projects. Approximately 20,000 pounds of material have already been set aside for experimental use thus far.

Arsenic for the 1944 and 1945 season will be available in supplies adequate to produce material to meet the War Food Administration and FEA's requirements of the arsenicals. The grade of material which is to be available may not be the most desirable, but we can assure an adequate supply.

In all probability, imports of rotenone in 1945 will exceed by from 20 or 25 per cent the amount of rotenone imported during 1944. As Mr. Groggins has already informed you, it is our hope that there will be no formal order of the War Food Administration regulating the end uses of rotenone insecticides, but instead the WPB, through its allocation will determine the amounts of material to be made

available for certain areas for certain crops.

It was our original hope that pyrethrum would be available in 1945 to a much greater extent than in 1944, but it now appears that the military will require even more pyrethrum for the control of insect carrying diseases than they are now taking. This is somewhat complicated by the availability of greater amounts of "Freon" than was originally presumed to have been available. It can readily be seen that malaria will always be a problem and as long as our troops are in the malaria regions, pyrethrum, in the form of the aerosol supply, will always be necessary.

The outlook for copper sulfate is again that of a comfortable supply position. The availability of copper, sulfate is dependent, to a great extent, on the availability of copper, and already there has been a distinct liberalization of the use of copper in other than direct war requirements.

The materials which are under allocation by our Unit are arsenic, copper sulfate, rotenone, pyrethrum and DDT. Aside from these commodities, there are many other chemicals used in the manufacture of agricultural insecticides and fungicides which are frequently in short supply, but in our opinion, not sufficiently critical to warrant direct allocation. Nicotine sulfate, for example, is in an uncomfortable supply position right now, but we feel that no domestic allocations of this material will be necessary.

From time to time, as conditions change, changes are made in allocation orders. As an example, early in 1944, methyl bromide was placed under allocation in order to meet the delousing

* Before 11th annual meeting Agricultural Insecticide & Fungicide Association, Spring Lake, N. J., September 8.

requirements of the military. With the advent of DDT, however, there was a sharp decrease in the requirements of methyl bromide so it was removed from allocation. In the same way, other materials will be removed from allocation as promptly as possible. Obviously, if there is a probability for an improvement in a situation for a temporary period, with the promise that over a long period the material will again become tight, it is unwise to remove that chemical or raw material from allocation for just a brief period. Thus, at the moment, many believe that copper sulfate should be removed from allocation; however, the supply of copper sulfate still depends upon the availability of copper and until there is an adequate and assured supply, it would be foolish to remove copper sulfate from allocation.

And what of the reconversion outlook? In the case of arsenic it is possible that with the termination of hostilities in Europe, supplies may become available from Sweden and elsewhere which would permit the removal of existing restrictions. Until such time, it is to the industry's advantage that the existing restrictions be maintained. Supplies, at present, are considerably less than indicated requirements, and the present restrictions are the only means of assuring full utilization of manufacturing facilities and equitable distribution of the material.

In the case of rotenone, the cessation of hostilities in Europe will probably have little effect on imports of this material from South America—rather, the progress of the war in the Pacific will largely determine the speed with which restrictions covering this commodity can be removed. We are now entirely dependent upon South American imports of this commodity; whereas, in pre-war times, a substantial tonnage arrived from British Malaya. No one knows definitely the status of the derris plantations in British Malaya, but if upon recovering that area it is found that substantial supplies still exist or may become available, it will so influence the over-all supplies that present restrictions will no longer be necessary.

Similarly, with pyrethrum. The European Theater of War will not ma-

terially affect the utilization of pyrethrum or the availability of additional supplies. Here again, the Pacific will determine the rapidity of removing restrictions. However, when that part of the conflict is terminated, supplies will undoubtedly improve and eliminate the necessity of government control. It is evident that, at the cessation of European hostilities, the demand for pyrethrum by the military for aerosol will probably increase because of the greater concentration of allied manpower in the Pacific Theater areas. The supplies of material from our present source are greater but due to the increased demands for aerosol-type insecticides and due to the increased quantity of "Freon" likely to be available, it is fairly certain that there will not be any greater quantity nor any better grade of pyrethrum available for agricultural consumption in 1945 than there was during the current year.

What has been said about arsenic, rotenone and pyrethrum affects practically all commodities. Some materials will become freer immediately following the end of European hostilities, while others are dependent upon action in the Pacific. Generally speaking, the standard which is used to regulate controls is the extent to which supplies meet requirements.★★

AIFA MEETING REPORT (From Page 108)

But, Mr. Watson emphasized, indiscriminate "poison" warnings defeat their own purpose. "In simple terms," he said, "A poison is—'Too Much.' Therefore, except as a warning against oral intake, the word 'poison' is outmoded, and agitation for its widespread use on almost every chemical product could only achieve irreparable damage to public welfare because sooner or later public reaction would be one of indifference.

"The caution label on a hazardous product depends upon its properties; that is the fundamental rule. The language must be clear, brief, and understandable."

Mr. Watson declared that "labels adopted by the chemical pro-

ducers of their own volition are far in advance of statutory requirements for protection of the consumer." But in addition, he said, "there are 163 State laws dealing with chemicals, most of which have labeling requirements. These are not sharp in their requirements or scope. There are conflicts which tend to impede the free flow of interstate commerce. California is holding hearings in San Francisco on Sept. 20 in regard to special labels for chemicals within that State. It is difficult to see how special labels for each State can serve the national welfare.

"In many instances, current proposals for special legislation for the labeling of chemicals and chemical products ignore the extensive statutory structure with its labeling requirements and the widespread program voluntarily adopted by the industry. New legislation carries the inherent threat of overlapping and duplication with existing statutes and possible breakdown in the confusion and conflict of controls."

Illustrating the magnitude of label requirements, Mr. Watson said that one firm making fine chemicals "has over 12,000 different labels in stock."

THE meeting session on Friday, September 8, featured a series of talks by representatives of government agencies, the War Food Administration, War Production Board and the Office of Price Administration. Philip H. Groggins, chief of the Chemicals and Fertilizers Branch of WFA, assured his listeners that his unit has "no plans or programs to perpetuate any control over the activities of the agricultural insecticide and fungicide industry," their future program involving only the fulfillment of their wartime responsibilities as a claimant agency.

John A. Rodda, chief of the Insecticides Section, Chemicals Bureau of the WPB was another speaker at this session, his remarks on the supply outlook for insecticide raw materials being reported fully elsewhere in this issue. The OPA was represented at this session by Dr. Mortimer Leonard and C. F. McIsaac, while J. A. R. Dalley spoke on FEA policies.★★

What Is A Safe FLOOR FINISH?

THE subject of safety in floor finishes is admittedly one of an extremely controversial nature.

Slipping accidents are sometimes difficult to explain and oftentimes there are psychological as well as mechanical elements involved. People have long associated a floor of glossy appearance with slipperiness although, as we now know, there need be no relationship at all. Perhaps the wax finishes first used years ago were responsible for this reaction. With modern floor finishes which provide safety, the association may gradually be destroyed.

Modern floor finishes include the various water-emulsion waxes and other liquid finishes as well as paste waxes. They are considered from the point of view of their application to floor materials not only of the so-called resilient types such as linoleum, rubber tile and asphalt tile but also varnished or shellacked wood, terrazzo and cement floors. All these floor coverings and floor materials may be found in industrial, commercial, institutional and public occupancies and some of them, particularly linoleum and asphalt tile are found in extensive use in homes. Floor finishes, while of primary importance from a preservation and maintenance point of view are nevertheless being regarded more and more from the safety angle.

* Before 30th mid-year meeting, Natl. Assn. Insecticide & Disinfectant Mfrs., Chicago, June 13, 1944.

By Sydney V. James*

Underwriters' Laboratories

The work done at Underwriters' Laboratories, Inc., in setting up a testing program will naturally form the basis of my remarks.

In studying the subject, our first consideration was given to the mechanism of walking. We desired to develop an adequate appreciation of the mechanical problems involved so as to be able to set up a test method which would give us a reliable basis for determining the slipping resistance of floors both with and without finishes.

An approximate analysis of the operation of walking shows that a person starts by swinging his body forward, with, let us say, the weight on the left foot. He reaches forward with his right foot and sets it down on the floor surface ahead of him. The first contact may be the back edge of the heel, but very soon the shoe rocks forward and the sole comes in contact. The leg forms an angle with the vertical and the weight of the body is gradually transferred to the foot.

The body continues to move forward by virtue of the thrust from the left foot still in contact with the floor. The angle of the right leg with the vertical now decreases until, mo-

mentarily, it is taking the weight in a vertically downward direction. As the body moves on forward the right leg is inclined at a backward angle and provides the thrust for the next step. Meanwhile the left leg and foot swing forward and the action is repeated.

The essential point of this process, it seems to us, is that the shoe is in stationary contact with the floor during the walking action. There may be some difference of opinion as to this. It would be extremely interesting to see "slow-motion" moving pictures of the walking process. I think we should see clearly that the shoe, although it may rock or roll slightly during the step, is essentially in stationary contact with the floor. If a person tries to take too long a step on a slippery floor, the leading foot may slip because, in attempting to transfer the weight to it, the angle of the leg is too great and the friction at the shoe contact will not keep the foot from slipping. Similarly, letting the leg take too great an angle backward may also result in slipping. Think of a person walking on stilts. On a slippery floor short steps are necessary, while on a rough floor long strides become possible.

Another point which should be considered is that the friction between two bodies in stationary contact is greater than if the bodies slide relative to each other. We believe that it is necessary to take this into account when analyzing the walking process.

In developing a test method, careful consideration was given to arrangements previously tried and extensively used. One of the earliest ideas was to use an inclined plane covered with the floor surface to be tested and having resting on it a weight representing a wearer's shoe. The test procedure was gradually to increase the inclination of the plane until the weight slipped and started to move. This method obviously depends on static friction, but brief consideration will convince you that the shoe pressure normal to the test surface gradually decreases as the inclination of the plane becomes greater. This introduces an undesired variable.

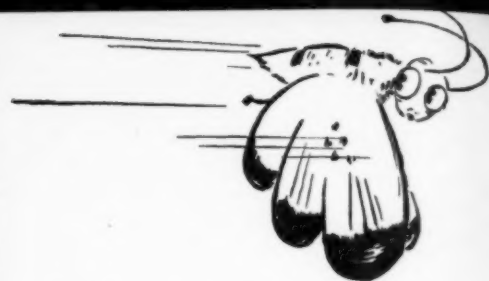
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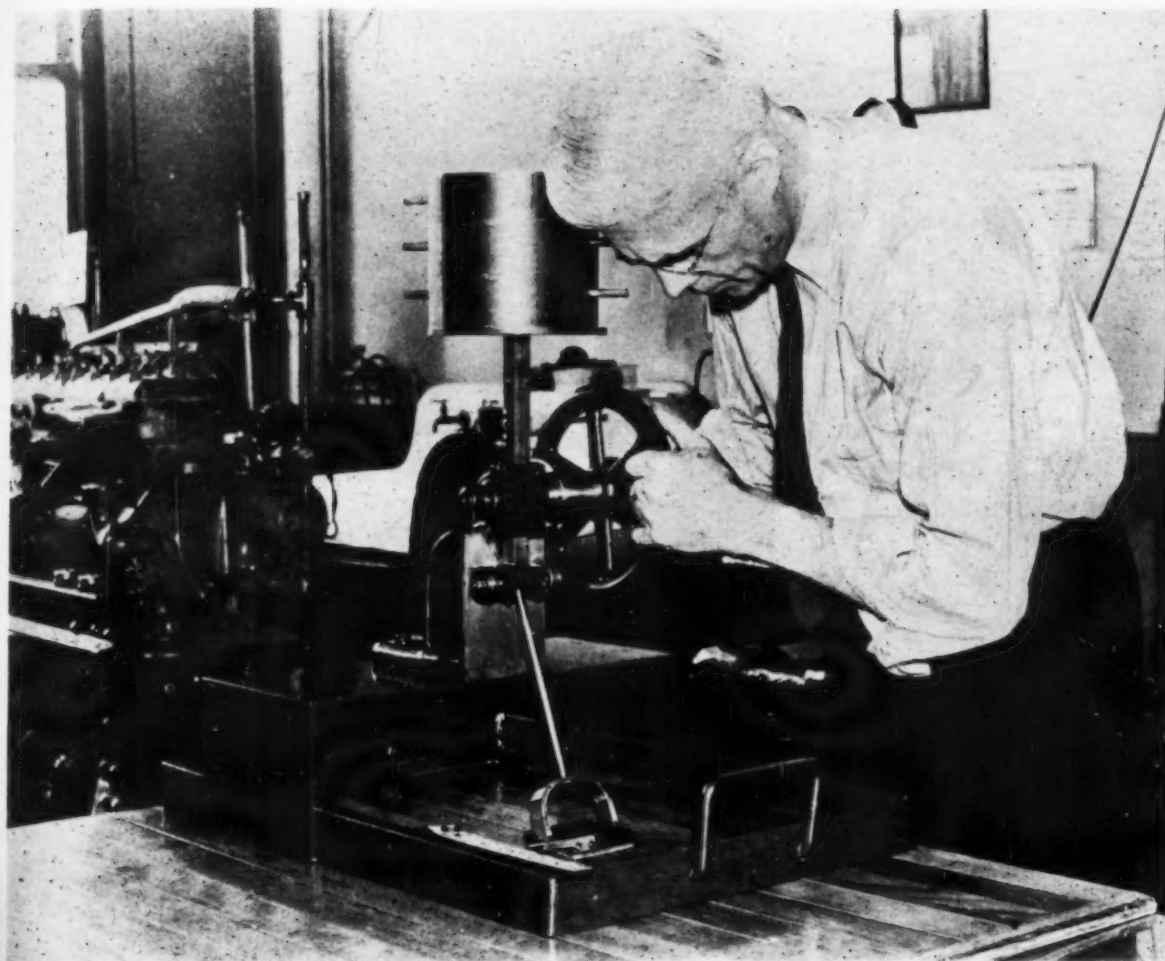
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Test Device for Determining Slipperiness of Floor Surfaces

Another scheme was to drag a loaded shoe along the test surface at a constant velocity and measure the pull with a spring balance. The normal pressure is constant, but the method involves friction of motion and operates on a principle quite different, mechanically, from that of walking.

Another method which has been tried repeatedly involves the sliding of a weight along a horizontal floor, starting the weight each time at a predetermined constant velocity, and measuring the distance it travels before stopping. This has the advantage of a constant normal pressure between the weight and the surface under test but involves a gradually decreasing speed and the friction of motion, rather than that of rest.

Another method involves the use of a swinging pendulum shod with rubber or leather to represent the shoe

and arranged so that, at the bottom of the swing, the shoe attached to the pendulum will give a swiping contact with the test surface. This method appears to us to involve a number of disadvantages aside from the fact that it attempts to measure sliding friction. The contact pressure between shoe and test surface seem to us to be rather unpredictable owing to the spring support of the hinged shoe on the bottom of the pendulum.

IT was finally decided that we should develop a machine which would embody, first of all, stationary contact between the shoe and the test surface and then a constant normal pressure of the shoe against the test surface.

The test shoe consists of a 3-in. square flat steel plate shod with leather or composition material approximately $\frac{1}{8}$ -in. thick. This represents the shoe of the person walking on the test floor. Hinged to this shoe is a strut or leg 10-in. long having at its upper end a horizontal cross shaft. A ball-bearing roller at each end of the shaft bears against a vertical steel plate forming part of the machine frame. A vertically-downward dead-weight load of 75 lbs. is applied to this cross shaft through a guided vertical loading ram.

There are four forces involved in the use of this machine. Two of these are vertical forces: the downward weight of the test load and the upward reaction between the shoe and the floor. These two forces are of necessity equal and opposite. The other two forces are the friction between shoe and floor and the reaction between the strut

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rollers and the vertical steel back plate of the machine frame. The friction force is, of course, horizontal. The reaction is also horizontal. It is equal and opposite to the friction at the shoe. Neither the dead weight of the testing machine nor the friction between the machine base and the floor enter into the problem.

The loading on the test shoe is approximately 8 1/3 psi which is somewhat less than that involved in actual walking, but it was found by experiment that the results were practically identical with loadings above, about 6 psi. The use of a 3 ins. by 3 ins. shoe with a 75 lb. weight was adopted by the National Bureau of Standards in an investigation of floor safety conducted in 1929.

The shoe carries a pointer which indicates the coefficient of friction at the slip point on a scale attached to the frame of the machine. The pointer is at the zero of the scale when the strut is in the vertical position. A rack and pinion mechanism with a hand wheel on the pinion shaft enables the weight to be lifted.

The machine is placed on the test floor with the shoe resting on the area to be tested. The operator lifts the weight by the application of torque to the hand wheel so that the strut and shoe may be moved to a point slightly off the vertical. The hand wheel is then released and the load allowed to be transmitted to the shoe through the strut. The horizontal reaction thrust against the steel plate moves the entire machine along the test sample allowing the shoe to remain in stationary contact with the sample throughout the entire test. The operator of the machine can control the movement by holding back on the machine frame and thus allow the machine to move slowly and smoothly. The angle of the inclination of the strut to the vertical increases gradually until it reaches the critical value at which the shoe will skid or slip on the sample. The scale indication shown by the pointer is observed at this instant. This gives a positive indication of the coefficient of friction between the shoe and the test sample. The test is repeated a number of times and an average value determined. The contact surface

of the test shoe is dressed by the application of fine sandpaper so as to bring it to a standard uniform condition before each test.

OUR procedure in determining the acceptable safety of a floor finish is first to clean and dry the surface of samples of each floor material on which finish is to be tested. This gives us surfaces representative of the natural untreated condition. Then we measure and record the coefficient of friction as a basis for later comparison with the treated surfaces. The finishes to be tested are then applied in accordance with the manufacturer's instructions. Tests can be made on small areas in the laboratory as well as on large areas under actual service conditions. Extended tests have been made on floors in service in order to get data relating to service floors with the laboratory test samples.

After the application of the finishes under test, friction measurements are again made and compared with the readings on the untreated or bare floors. The surfaces are tested both dry and wet but it has been found that comparative tests on dry surfaces give a reliable basis for comparison.

The basis for the judgment of the acceptability of the finish from a slipping hazard standpoint is that the co-efficient of friction after the application of the finish shall be at least as great if not greater than that of the untreated floor surface. This is a relative or comparative method. It is based on the assumption, amply justified by experience, that the various forms of commonly used floors and floor coverings are safe enough for use without any finish material being applied.

This method has been successfully applied to the products of several manufacturers and has resulted in the recognition of a number of finishes as acceptable from a safety standpoint. Most of the listed products are water-emulsion waxes which, as far as we are able to determine, have been giving satisfactory service. Allowance must be made for incorrect floor preparation and incorrect application as well as improper maintenance practices.

Summing up the matter, therefore, our method of answering the

question "What is a safe floor finish?" is to compare the surface friction of the finish-coated floor with that of the untreated floor and then if the coefficient of friction of the treated or finished surface is no less than that of the untreated surface, the finish is regarded as being a safe finish.

Carnauba Wax Study

Fractional distillation of the free wax alcohols in carnauba wax at 0.5 mm. pressure is a useful method of separating these compounds, but recrystallization of the fractions is necessary.

There are substances in the unsaponifiable portion of carnauba wax which are of an unknown nature but which are probably not n-aliphatic alcohols. For the first time, three alcohols, octacosanol (C_{28}), triacontanol (C_{30}), and dotriacontanol (C_{32}) have been isolated from carnauba wax in states of purity of 95 per cent or better. Dotriacontanol is more abundant in the wax than it triacontanol. S. D. Koonce and J. B. Brown. *Oil & Soap* 21, 231-4 (1944).

Self-Polishing Wax

A self-polishing aqueous wax suspension consists of a colloidal dispersion of a hard wax in water. As an emulsifying agent the reaction product of a fatty acid with monoethanolamine, diethanolamine, triethanolamine, or morpholine is used. An oil-soluble dye is a component part of the solid dispersed phase. The emulsifying agent causes the solids to disperse in such a small particle size that the composition will dry with a luster. J. V. Steinle and A. D. Budner, to S. C. Johnson & Son, Inc. Canadian Patent No. 422,370.

Freon-insoluble Solids

A test tube is described which permits quick determinations of the solubility of pyrethrum extracts in "Freon." This tube may be used generally for solubility determinations under pressure in solvents which are gases under atmospheric pressures. H. Wachs, C. Morriello and S. Mages. *Ind. Eng. Chem., Anal. Ed.* 16, 453-4 (1944).

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Dispersants for ROTEONE

a study of the effect of dispersants
on the toxicity of rotenone dusts

By E. J. Campan and H. F. Wilson

University of Wisconsin

AN extensive study of dispersants for rotenone dusts is being made at the Wisconsin Agricultural Experiment Station. During the study it has been found that the success of a dust treatment against the pea aphid depends to a large extent on the dispersant used.

The chemical qualities of a dispersant do not seem to be important except as the variable quantity of a single combination of elements may affect its physical qualities. This is clearly demonstrated by the fact that good control of the pea aphid in the greenhouse and in the field has been obtained with dispersants of plant origin and minerals of widely variable composition. The most important factor seems to be closely related to particle shape, size, and hardness. But this statement must be made with some reservation as it has been found that between dispersants, particle size is not always important. The important differences have been found to occur between different samples of the same material. With some dispersants, increased toxicity is shown with increased concentration of ground cubé or derris. With others the toxicity tends to decrease with higher concentrations of these materials.

The reasons for the variable results obtained with different materials will no doubt seem quite simple when they are determined. But there seem to be a number of closely interrelated factors that affect the toxicity of rotenone dusts. This tends to create a somewhat complex problem which can

only be solved by making many greenhouse tests to determine to what degree each factor affects the behavior of insecticidal dusts.

Insecticides, other than rotenone, are similarly affected by dispersant materials. Greenhouse tests show that bentonite and some other clays have a definite depressing effect on pyrethrum and DDT. Sedimentary clays are definitely poor dispersants. Mine clays tinged with red or blue are equally poor. Diatomaceous earth, kaolin clay and ground quartz samples have been found to give quite variable and inconsistent results. Pyrophyllite as "Pyrax" and "Friarite" were the only two materials of the clay, or aluminum silicate group which have given consistently good results. When 2 per cent oil was added to dusts the toxicity was generally increased to a high degree. Further studies with clay dispersants are not thought desirable at this time because of the generally low control obtained with rotenone dusts in which they were tested.

Fifteen different clays, three clay-like materials and one plant material were tested with dusts containing 0.1, 0.25, 0.75 and 1 per cent rotenone mixed with and without oil. In making the tests three plants each infested with 20 adult aphids were used for each replicated test. Two materials were compared in each test series with the five different concentrations of rotenone. One-half gram of dust was applied to each plant.

Results—The greenhouse control data for a representative series of

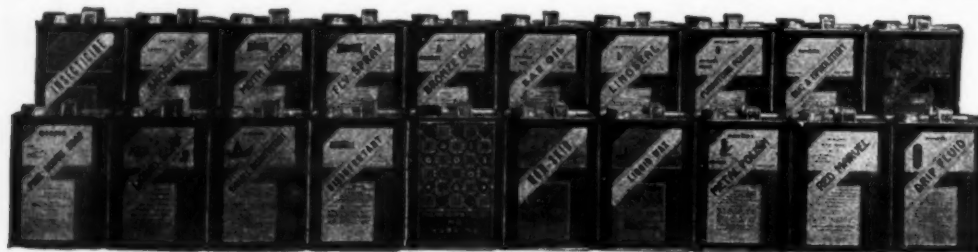
clay materials and one plant material "Baggo" is given in table 1. A graphic presentation of what may be expected of clay materials in general, based on accumulated but not always comparable data is given in Figure 1.

"Pyrax" was found to give the most consistent results with all concentrations of rotenone. "Friarite" was found to be the next best dispersant and was comparable with "Pyrax" when concentrations of 0.5 to 1 per cent rotenone were used. Ground quartz was found to vary according to the sample and the data presented is based on data obtained with a sample of white quartz rock. Quartz rock samples having a reddish or blue color gave relatively poor and inconsistent results. A more detailed study of quartz samples is now being made. Diatomaceous earth samples were found to be more variable than quartz. The degree of control was found to increase as the concentrations of cubé or derris were increased and probably had much to do with the conclusions reached by early investigators that 0.75 per cent or more of rotenone was necessary to obtain high control of the pea aphid.

Perry and Cherokee clay were much alike and gave the highest control for dispersants classified as clays. Bentonite and Sheridan clay were very poor dispersants and seemed to mask almost completely the toxic values of rotenone, regardless of the concentration.

The two most interesting materials were grey and "Oy" clay. These two materials appeared very much the

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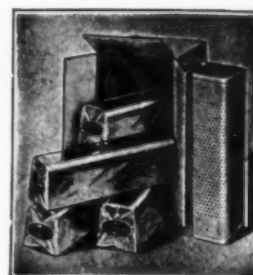


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same under the microscope and the particle size for each varied from 2 to 25 microns. The larger particles were angular and it was a surprise to find that "Oy" clay was significantly poorer than grey clay at all concentrations of rotenone above 0.1 per cent. The only apparent difference between the two was that grey clay was bluish grey in color while "Oy" clay was reddish. A more detailed study of the chemical and physical characteristics of these two materials may help to determine the causes for variable results produced by variable dispersants.

Rather definite preliminary conclusions were drawn from this study, some of which are subject to change when additional studies are made. The study seemed to show that:

1. The effectiveness of rotenone dusts used against the pea aphid was directly correlated with even dispersion and good coverage.

2. The best coverage, with the exception of celite and diatomaceous earth, was obtained with those dusts that gave the lightest clouds, settled quickly, and were more evenly dispersed on the plants and aphids.

The poorest coverage and usually the poorest results were obtained with dusts that gave the most dense clouds, settled the slowest and appeared in aggregates on the leaves.

4. Dispersants with large particles up to 40 microns in size gave better coverage and a more even dispersion on plants and aphids than dispersants in which the majority of particles were 2 microns or less in size.

5. The percentage of dispersant passing through a 325-mesh sieve and its bulking value were little indication of amount of very fine particles actually present in a dispersant.

6. There seemed to be an inverse relationship between the amount of hygroscopic moisture adsorbed by a dispersant and its effectiveness as a dust.

7. The hydrogen-ion concentration of the dispersants had no apparent effect on the results obtained with freshly mixed dusts but there was some indication that differences may develop when dusts are held in storage.

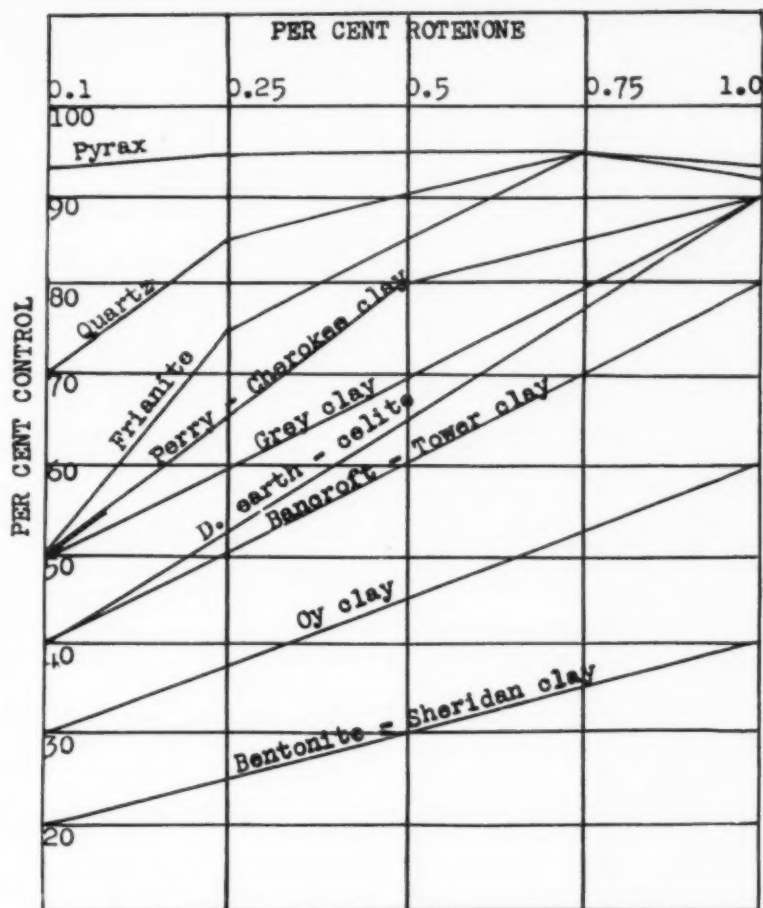


Fig. 1—Per cent control of the pea aphid in greenhouse tests with concentrations of 0.1, 0.25, 0.5, 0.75 and 1.0 per cent rotenone dispersed with Pyrax, Friarite, Quartz, Diatomaceous earth and varialbe clays.

Table I—Per cent control obtained with 0.1 to 1 per cent rotenone with and without 2 per cent oil when dispersed with seven different clays and one plant material.

Dispersant	Replicate	0.1	0.25	0.5	0.75	1.0
Pyrax						
With oil	5	96	92	96	98	91
No oil	2	27	27	42	83	88
Friarite						
With oil	5	51	85	90	98	97
No oil	3	36	41	48	54	72
Quartz						
With oil	2	69	86	46	94	80
No oil	2	28	3	2	70	60
Perry clay						
With oil	5	44	58	85	90	97
No oil	3	28	49	36	46	53
Bancroft clay						
With oil	5	38	29	44	80	83
No oil	2	49	34	37	42	46
Celite						
With oil	3	22	23	58	70	89
No oil	3	17	28	20	35	48
Diatomaceous earth						
With oil	2	16	10	42	92	93
No oil	2	36	6	17	38	88
Baggo						
With oil	5	53	86	95	93	91
No oil	5	38	23	41	56	68

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8. The electrostatic charge effects produced by different dusts indicated a relationship between the mag-

nitude of the charge produced by a dispersant and its effectiveness. As a rule, the higher the charge the better

the dispersion and coverage, and consequently, the more effective was the dust in relation to control.★★

The Effect of Plant Dispersants on the Toxicity of Rotenone in Ground Cubé When Used for Pea Aphid Control

By H. F. Wilson, E. J. Campau and R. L. Jones

IF some finely ground plant materials were abundant enough to be used economically as dispersants in rotenone dusts, they might be more desirable than mineral dispersants because of less variability in composition and physical characteristics. A dozen or more plant materials have been used to disperse rotenone in greenhouse tests. One sample of dried blood was tested and found to show fair dispersant qualities. Flour, alfalfa meal, barley meal and other soft plant tissues did not appear to advantage. Walnut shell flour, various samples of Lignin and "Baggo," a plant material of unknown source, gave consistently better control than most mineral dispersants.

It was evident, however, that if lignin dispersants were to be used a complete study of all the different types of lignin was necessary to determine the best type. It was particularly noticeable that coarse particle sized samples were more effective than those in which the particles were submicroscopic in size. One type of lignin which gave good control in the greenhouse was tested in the field in comparison with talc and "Pyrex" and gave as good results as "Pyrex."

This phase of study was dropped at the beginning of the war period and probably will not be revived. As a matter of interest and to record the data, a graph has been made, Fig. 1 in

which the accumulated data was used to show the lines of control to be expected if ground walnut shell flour, lignin and "Baggo" containing particle sizes up to 250 microns were used.★★

Sources of Clays Discussed

Only the sources used in detailed studies are listed at this time.

Asbestine clay—International Pulp Co., 41 Park Row, New York City.

Bancroft, Perry, Sheridan and Tower clays—United Clay Mines, Corp., Trenton, N. J.

Bentonite—Volclay American Colloid Co., 363 W. Superior St., Chicago, Ill.

Bentonite, The Myodak Chemical Co., 4600 E. 71st St., Cleveland, O.

Cherokee clay, Pyrax and Baggo, R. T. Vanderbilt Co., 230 Park Ave., New York, N. Y.

China clay, Carolina China Clay Co., Penland, N. C.

Dicalite, Dicalite Corporation, 520 Michigan Ave., Chicago, Ill.

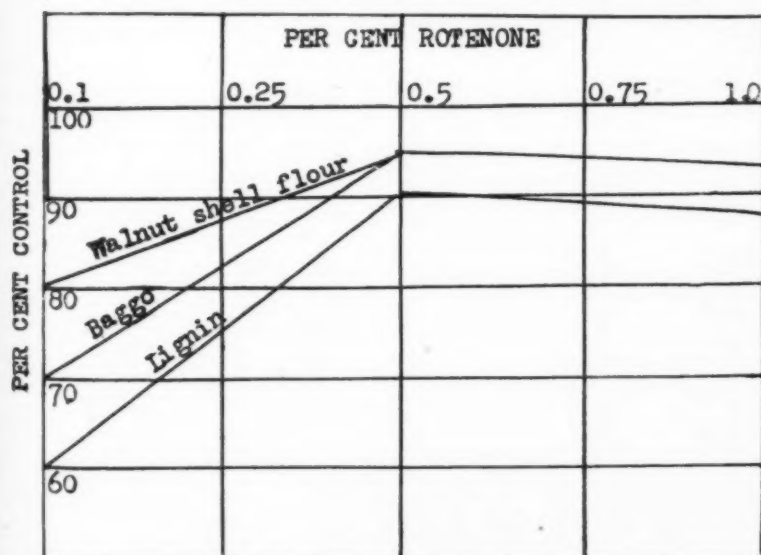
Frianite, The Frianite Co., Frianite, Cal.

Grey—O. M. and O. Y. clays, F. E. Schundler & Co., 504 Railroad St., Joliet, Ill.

Grey and Tamfloss clays, Tamms Silica Company, 228 North LaSalle St., Chicago, Ill.

Quartz, Illinois Minerals Company, Cairo, Ill.

Fig. 1—Per cent control of the pea aphid in greenhouse tests with concentrations of 0.1, 0.25, 0.5, 0.75 and 1.0 per cent rotenone dispersed with three finely ground plant materials, walnut shell flour, Lignin, and Baggo.



Pine Tar Disinfectants

A pine tar of which 24 per cent boiled up to 300° C. was made up in 3 ways: 1. The Danilev phenol-lime-water method; 2. 10 parts of pine tar mixed hot with 2.5 parts of rosin, stirred with 87.5 parts of a 1 per cent aqueous solution of caustic soda, are heated to boiling and allowed to settle; 3. 12.5 parts of pine tar are stirred with 87.5 parts of a 1 per cent aqueous solution of caustic soda, heated to boiling and allowed to stand. The phenol coefficient by the Riedel-Walker method with *B. coli* and *Staphylococcus* was 0.2. The third product was superior to the first two as a substitute for crude phenol or lysol in disinfecting buildings, cesspools, water closets, sewage and the like. In an 18 hour treatment of sewage, the third product was nearly as effective as a 5 per cent solution of crude phenols. Y. A. Fialkov, G. M. Frenkel and S. A. Kacherova. Farmatsiya 6, No. 3, 16-19.

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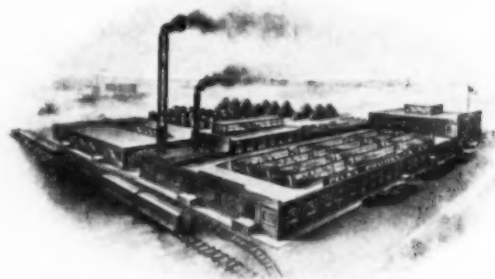
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From Current Literature in the Sanitary Products Field

Synthetic Insecticides

A report on 82 compounds tested as stomach poisons or contact poisons, or as fumigants if the compounds were volatile, showed 11 compounds to be sufficiently toxic to several insect species to merit discussion. The most effective of all was 2-chloro-6-nitrotoluene, a volatile compound with possibilities as a fumigant. M. C. Swingle, J. B. Gahan and E. L. Mayer. *J. Econ. Entomol.* 37, 70-4 (1944).

Sanitizing Eating Utensils

Tests carried out in food-dispensing establishments, hotels and a hospital where there were cases of contagious diseases, showed that hand-washed eating and drinking utensils can be effectively sanitized by rinsing them in an aqueous solution of the cation-active agent, alkyl dimethyl benzyl ammonium chloride in a concentration of 1:5000. The concentrations of this product do not seem to be greatly affected by the addition of organic matter. Ice-cream scoops can also be effectively sanitized by the use of this chemical. The disinfecting value of the product does not appear to be affected by prolonged periods of use.

A test kit has been devised for determination of the concentration of the chemical in rinse solutions as follows: to 0.5 cc. of rinse solution add 2.5 cc. of Normal sodium hydroxide, shake, add 3 cc. of ethylene dichloride or chloroform, shake, add 0.02 per cent of bromo-thymol blue one drop at a time, with shaking after each addition.

The end point is reached when the aqueous layer remains blue. R. M. MacPherson. *Can. J. Public Health* 35, 198-202 (1944).

Study Insecticide Dust Formulation

New Hampshire Agricultural Experiment Station, Durham, N. H., reports development of a method for impregnating inert materials, such as talc or pyrophyllite, with controlled amounts of a toxic substance in liquid form which, it is stated, "points the way to more efficient use of both natural and synthetic contact insecticides when applied in dust form." The apparatus was constructed in the entomological laboratories during studies of contact insecticides involving investigation into the performance of materials in dust form.

The usual procedure for preparing impregnated dust, as explained in the New Hampshire station's annual report for 1943, is first to prepare a "master batch" by adding a measured weight of liquid to a measured weight of inert in a ball or other mixing device, the liquid being present in a much larger percentage than is desired in the final product. This master batch is then diluted by mixing with more inert.

Impregnation under the new method was accomplished by delivering the inert into a chamber at a controlled rate and by atomizing the liquid into the dispersed dust as it enters the chamber, this liquid toxicant being atomized into the inert in the exact proportion in which it is ultimately to

be studied. "In the case of the master batch," says the progress report, "it may be presumed that only a part of the particles in the final product carry the toxicants. In the new method it is presumed that substantially all the particles carry the toxicant but in reduced amount."

A series of experiments were run to compare the performance of given toxicants when present at a predetermined proportion in an inert by the master batch method and others prepared by the new direct impregnation method. "The data indicate," says the report, "that a given amount of toxicant exhibits greater performance when added to an inert dust by the direct method than when added by the master batch method. The difference in favor of the direct method is frequently as much as two to one." This investigation, it is claimed, "appears to be the first that has been conducted comparing the two methods of preparing contact insecticide dusts."

Sulfa Derivatives As Germicides

Applications of Sulfa drugs in the fungicide and germicide field are reviewed in the annual report of the Rhode Island Agricultural Experiment Station, covering the year ending Dec. 31, 1943.

While such "sulfa" chemicals as pyridine, quinoline and isoquinoline have low pesticidal values, work at the Rhode Island station, Kingston, R. I., has shown that "when converted to soluble form, upon reacting with other substances, the resulting compounds become extremely potent germicides."

"Tests have shown," says the report, "that these compounds: Isothan (lauryl pyridinium bromide), Isothan Q 14 (lauryl quinolinium bromide) and Isothan Q 15 (lauryl isoquinolinium bromide), etc., when present at five parts per million of water, kill pathogenic mold spores.

"Their toxicity to fungi is unaffected by the acidity or alkalinity of water, as shown by testing over a range from pH 3 to pH 9. Although poisonous to germs, they cause no blistering or other skin injury to man or animals even in concentrated solutions.



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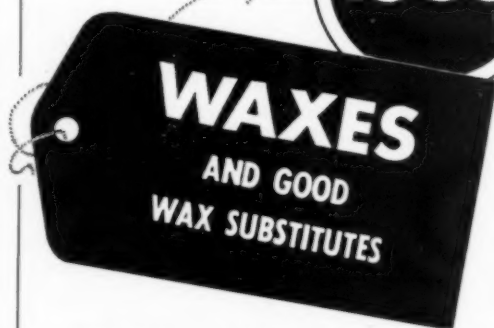
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"The Isothan compounds have an inherent ability to wet foliage and penetrate into pores of surfaces which permit them to provide greater antiseptics and more complete protection. The property of spreading droplets of water containing them over surfaces greatly enhances their fungicidal, bactericidal and contact insecticidal value. While industry is adopting them for mildew-proofing and moth-proofing of fabrics, for deodorizing and mold prevention on animal products and other antiseptic purposes, this station's chief interest has been their development for use in agriculture." Included in the report are progress reports of tests for this purpose.

Investigations were conducted also of the "quaternary ammonium" compounds whose molecular structure chemists have found can be changed so that the compounds can be "tailored" to meet various specifications with maximum efficiency.

"Among such pesticidal chemicals now available," says the report, "are 'Imulury,' 'Quartol,' 'Ammonyx Q,' and 'Isothan DL1.' The inherent wetting action of the last named antiseptic compound puts it in a class by itself.

"It has proved to be far superior to any of a large group of wetting agents tested. At dilutions as low as 30 parts per million it will cause sprays to form a continuous film, rather than individual droplets on a plant surface; thus insuring better coverage and protection from micro-organisms."

Among members of a new type of organic mercury compounds tested as potential fungicides, the best of those tried was "Puratized N5X" formulation, the report states, adding, "In standard laboratory tests, this formulation is able to prevent the germination of better than 95 per cent of the spores of a test fungus at dilutions as low as three parts per million of water." While this formulation at

present has no detergency, the station investigators say "its potent fungicidal value at great dilutions suggests several applications in agriculture."

Also reported on is a "service" fungicidal test developed to accelerate certain necessary laboratory and greenhouse tests to determine potential fungicidal values and other properties of the many compounds explored. In two weeks' time, this "service" test can forecast the "staying power" of a chemical, it is stated.

"The test chemical is placed on specially treated glass slides which are buried in moist greenhouse soil," continues the report. "At intervals the slides are removed and the ability of fungous spores to germinate on their surfaces is observed. Many fungicides now in general use lost their ability to kill spores in 24 to 48 hours under the rugged conditions of this method, but certain newly developed formulations will still kill better than 75 per cent of the spores after eight days burial in the soil."

Studies in Rat Control

Corn oil and cottonseed oil, when mixed with rat-control baits of zinc phosphide and rolled oats and stored under moist conditions for several days, gave only a slight odor of phosphine. Under the same conditions, raw linseed oil and crude coconut oil soon caused evolution of objectionable and poisonous amounts of phosphine. Coconut oil developed more phosphine than did raw linseed oil under identical conditions. Phosphine was detected in mixtures of coconut oil and zinc phosphide in rolled oats in 3-4 days, even when they were protected from excessive moisture. Deterioration of baits containing coconut oil was prevented, without affecting their acceptance by rats, by adding 0.5 per cent of calcium hydroxide.

Zinc phosphide baits containing white mineral oil in place of vegetable oils did not deteriorate during storage and appeared to be somewhat more acceptable by rats. Under field conditions, thallium sulfate and zinc phosphide baits were equally effective in controlling rats. Cats and mongooses were not affected by eating rats that

had died from zinc phosphide poisoning 1-6 hours before they were ingested. R. E. Doty. Printed Repts. Ann. Meeting Hawaiian Sugar Planters' Assoc., Rept. Comm. in Charge Expt. Sta. 63, 48-52.

Disinfectant

Products suitable for use as disinfectants and for exterminating pests are prepared by saponifying trichloro-thymol phosphate or other triphosphate of a phenol, by treatment with a saponifying agent such as caustic potash to form bisphenol phosphates and free phenols. The latter are held in solution or dispersion by the phosphate compounds. K. W. Rosenmund, vested in the Alien Property Custodian. U. S. Patent No. 2,341,657.

DDT for Roach Control

DDT, sodium fluoride, derri containing 5 per cent of rotenone, and pyrethrum containing 1 per cent of pyrethrins, were incorporated in mixtures containing 50 per cent of tale and 50 per cent of soybean flour. Test roaches were placed in contact with these mixtures for 48 hours. Minimum concentrations were 7 per cent of DDT and 33 per cent of sodium fluoride necessary to kill 100 per cent of the roaches in 48 hours. Mixtures containing 33 per cent of derri or of pyrethrum killed 30 per cent and 90 per cent respectively, of the roaches in the same time. J. M. Ginsburg. J. Econ. Entomol. 37, 122 (1944).

Parasiticide

A spray for killing parasites is prepared by mixing 1 part of mannitar coconut oil derivative with 100 parts of water and adding 0.1 per cent of pyrethrum extract containing 20 per cent of pyrethrins. Atlas Powder Co. British Patent No. 552,879.

Sheep Dips

Insecticides of the nature of sheep dips for killing insects from the skins of sheep and cattle, consist of a powdered mixture of finely divided sulfur and calcium, magnesium or barium cresylate. Cooper, McDougall & Robertson, Ltd., E. S. R. Willmore and F. A. Cooper. British Patent No. 552, 434.

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CHICAGO, ILL.

by Preston Peaker

WASHINGTON—The formula for the Army's aerosol bomb is reported to be scheduled for early change to provide for incorporation of DDT. The inclusion of three to five per cent of DDT is said to be planned, which will allow for a reduction in the pyrethrum content. Coming so soon after the release of some toxicological findings from Public Health Service which give DDT a questionable bill of health, this demand by the Army for DDT in its aerosol bombs is a puzzle to some officials here.

A number of manufacturers of commercial insecticides for sale to the general public have gone on record, informally of course, as being currently unprepared to use DDT in their products, even if it were available, until much more is known about the toxicity hazard. They point out that the Army apparently feels no such hesitancy in servicing its customers—who can't talk back or develop sales resistance in any case. One manufacturer of aerosol bombs, incidentally, observes that inclusion of DDT creates a hazard to the interior of the bombs as well as to personnel. Accelerated tests which they have completed indicate that the bomb charge containing DDT attacks the container lining.

DDT has dropped again in price. It has been reduced by at least one manufacturer from the recent figure of \$1.00 per lb. to a new price of 75c. This compares with an original price about a year ago of \$1.60 per lb.

Comment on the tentative draft of a proposed new federal law to replace the Insecticide Act of 1910 is to the general effect that it is about time such a new law is drafted. Because of obvious deficiencies and omissions in the present act, a number of states have considered it essential to put into effect additional restrictive measures of their own, ostensibly designed to protect the citizens of those states. The end result might be eventually that insecticide and disinfectant manufacturers would be forced

to package and label forty-eight different lines for sale in the forty-eight states. Obviously a new federal act, even though perhaps a more stringent one, would be preferable.

It has been pointed out by some critics, however, that a catch-all measure such as the one proposed, which can be re-defined as occasion arises by the Secretary of Agriculture, to include everything from paris green to mouse traps, could offer a definite threat to the insecticide industry at some future time in the hands of a possibly hostile administrative agency. They recognize the difficulty of drafting an adequate law in simple terms, but warn against legal short cuts which might make trouble for industry at some future date.

Currently one of the tightest spots in the raw material picture is paradichlorobenzene. Para is not under allocation, but production has been curtailed and there is reported to be no early prospect that the supply outlook may be expected to brighten. Pest control operators in particular are experiencing difficulty in getting the relatively small quantities they require. So serious has their supply problem become that the National Pest Control Association recently surveyed its members on their needs and will try to arrange through manufacturers and distributors for release of working stocks for the pest control industry.

No supplies of strychnine, widely used in the manufacture of rodent control products, have been available for some time. Plenty of nux vomica, the strychnine raw material is available here, but manufacturers are simply not producing strychnine at OPA ceiling prices,—below their costs under present conditions. And rodent preparation manufacturers who would gladly pay more in order to get strychnine are forced to quit making these much-needed products. This is held to be another indictment of OPA on the same count for which they have been indicted a thousand times previously,—stubborn refusal to exercise plain common sense.

Labels which the armed forces require manufacturers to put on some

insecticide products, including repellants, may meet the needs of the Army and Navy, but they do not meet the requirements of the Department of Agriculture for these products sold in interstate commerce. What happens when surplus of these materials is sold through civilian channels after the war? Who takes the rap for the incorrect labeling? Something interesting to look forward to.

Unofficially, the household insecticide industry has been promised no pyrethrum for 1945. In fact, they have been given to understand that they will get none. With Kenya production up and U. S. stocks increasing, a surplus of several million pounds may be available here by January. But, plans call for an expansion in the aerosol program of at least 20 per cent with the end of hostilities in Europe in order to fill needs for expanded warfare in the Pacific which will absorb pyrethrum surplus. Report WPB desires to keep pyrethrum on allocation after German defeat even if general removal of restrictions on allocated products takes place.

Army louse powder in order to give a quicker paralyzing action of the pediculus may have a percentage of pyrethrum powder added to it in the near future. In this case, the content of DDT may be reduced slightly below the present figure which is reported to be eight per cent.

Already the "surplus commodity hawks" are taking their perches high in the trees of this city ready to swoop down the instant surplus war goods go on sale. To avoid some of the malodorous happenings in surplus commodities which followed the first World War is expected to be child's play compared to the problems which are already looming on the horizon and which will crystallize when the present conflict is over.

One of our readers is interested in obtaining the names and addresses of the manufacturers of the following two products, "Badger Master Craft" and "Hilex." Any information leading to the identity of the makers should be sent to the editor, care of Soap & Sanitary Chemicals.

**"Will outwear any
wax we have used
in 4 years by two
to three times..."**

... writes Nevada distributor
about

Rexglo-X

"Just a word to let you know that our first order of REXGLO-X proved most satisfactory. There may be better waxes made — in fact you may possibly have another that you consider your best but we have found REXGLO-X to outwear any wax we have used in four years by two or three times, to hold its gloss better after mopping and to have a higher gloss at the start."

HERE'S a new treatment that's tougher, more durable than anything you've ever seen! Dries almost instantly to a rich, high lustre which may be converted to a brilliant gloss by polishing, if desired. Non-slippery. Immediately waterproof. Unlike ordinary treatments, Rexglo-X is not soft, sticky or brittle, does not scratch. Scuff marks are easily wiped out with machine polishing or a yarn dust mop. Traffic lanes are readily touched up without showing overlaps. Applied with either a sheepskin applicator or string mop.

Recommended for linoleum, asphalt tile, composition flooring, varnished, sealed, shellacked or painted wood, marble, terrazzo, tile, rubber, and painted or "raw" cement. Has many other important war-time uses . . . such as reducing friction on airplane wings and fuselages, protecting shell cases, etc. Priced right for profitable selling.

Write for full details and free sample.

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• Low boiling, high boiling, and symmetrical. In tank cars and drums from Indianapolis and Newark.

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Rotenone for Tick Control

A small amount of rotenone has been made available by the WPB for the manufacture of preparations for tick control for distribution solely in tick-infested areas where human life is endangered by Rocky Mountain spotted fever. Allocations will be based on the average of purchases during the years, 1940, 1941 and 1942. Form WPB-2945 is to be used and applications are to be forwarded to Room 1626, Temporary Building S, Washington 25, D. C. Tentative plans for the release of additional supplies of rotenone for flea control have had to be abandoned.

Expect Oregon Insect. Law Action

A new bill to take the place of the present law regulating insecticides, disinfectants and allied products in Oregon is expected to be introduced in the Oregon State Legislature which will meet early in 1945. The National Association of Insecticide and Disinfectant Manufacturers, in a recent bulletin to members distributed the complete text of this latest proposed revision of the Oregon insecticide law. Comments are asked to be forwarded to the secretary's office at once so that they may be made available to Oregon officials.

New "Thanite" Plant Opened

A new and larger plant for the manufacture of "Thanite" has been placed in operation at Brunswick, Ga., Hercules Powder Co., Wilmington, announced early last month. In June, Hercules opened a new insecticide laboratory in Brunswick for the biological and chemical testing and control of "Thanite." The construction of the "Thanite" plant was made necessary by the increased demand for the product by insecticide manufacturers, and is part of a long-range expansion program set up by Hercules' Naval Stores Department, the announcement stated.

Thayer Joins Emulsol

E. S. Thayer, for many years associated with the chemical industry, and formerly assistant western district



E. S. THAYER

sales manager of Mathieson Alkali Works, Inc., has been appointed sales manager of the technical products division of Emulsol Corp., Chicago, it was announced late last month. He will

DDT As Mosquito Killer

Widespread postwar use of the insecticide DDT as a mosquito killer and consequent malaria check—in addition to its already successful use as a louse powder—was predicted by Maj. O. R. McCoy, of the Surgeon General's Office, recently, in an address before the American Association for the Advancement of Science. Stating that "the world-wide postwar picture of malaria will be greatly changed by the advent of DDT," Maj. McCoy explained, "DDT must not be regarded as a miraculous agent which will suddenly do away with the malaria problem, as some extravagant press reports have suggested. It does, however, offer promise of revolutionary methods of control which ought to improve the malaria situation even in hyperendemic and poverty stricken regions." Al-

be in charge of sales of the company's synthetic organic chemical products, including "Emulsept," a new quaternary ammonium bactericide.

NAIDM on New Disinfectant Spec.

C. L. Weirich, chairman of the NAIDM Disinfectant Scientific Committee, has announced that with but one exception the new Treasury Department Procurement Division Specification for Disinfectant Use is acceptable. The exception is in the section of the specification which reduces the killing dilution from 1:1000 to 1:500, thus eliminating pine oil disinfectants and most cresylic type disinfectants.

Lehn & Fink Earnings Drop

Lehn & Fink Products Corp., Bloomfield, N. J., according to its annual report, which was issued here recently, for the fiscal year ended June 30, had a net profit of \$697,845, equal to \$1.75 a capital share, as compared with \$778,037, or \$1.96 a share, in 1943. Sales reached their highest point in the history of the company at \$17,143,337, which amounted to a gain of 29 per cent in the year. The company set aside an additional \$282,125 for inventory reserves and contingencies created by war conditions, raising the fund to \$733,322.

though the idea of using DDT against malaria mosquitoes has been in the planning stage for some time, it is only now that the production of this insecticide has reached the point where the available supply will permit its use in mosquito control work, Maj. McCoy declared. Pointing out that DDT is more poisonous to mosquito larvae than any substance heretofore known, it can be used in small amounts with savings in time and effort in larviciding operations, Maj. McCoy said. Its most promising use, Maj. McCoy indicated, is in spraying the habitations of native carriers of the disease in order to kill adult mosquitoes. "When DDT in kerosene solution is sprayed on interior surfaces" he concluded, "a residue is left which will kill insects lighting on the treated areas for a period of several months."

THE FINEST IN LIQUID SOAPS

☆ *Concentrated Liquid Soap V40*

(Shampoo grade—can be diluted for liquid hand soap)

☆ *15-18% Velvet Liquid Hand Soap*

(Meets Gov't Specifications)

REFRIGERATED — FILTERED — AGED — pH OF 8 — COMPLETELY NEUTRAL — CRYSTAL CLEAR — NEVER ANY SEDIMENT — HIGH LATHERING — FREE RINSING — ODORLESS — NO RANCIDITY — COLORED AND PERFUMED TO ORDER.

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SEALS — FINISHES — WAXES

T. F. WASHBURN CO.

2244 Elston Avenue

Chicago, Ill.

Charge Boyer Labs. Misbrands

Boyer Chemical Laboratories, Chicago, were named in a criminal information filed in federal district court in Chicago last month, which alleges "misbranding" of products sent in interstate shipments. "Boyer's Kill-'em-All" fly spray, according to the bill of particulars, is "not lethal to houseflies as claimed in the label." An ant killer sold by the firm, does not contain the ingredients listed on the label, it is charged, and the government document claimed, also, that a "one pound" package of moth crystals weighed less than a pound.

Mosquito Repellant

A new plant has recently been opened in Britain by Reichhold Chemicals Co. of Detroit, solely to manufacture dimethyl phthalate for use as a mosquito repellant. The compound is claimed to be the most effective mosquito repellant yet found. All available supplies are being devoted to the needs of the Armed Forces. Ethyl hexane diol, a high-boiling, colorless compound with an odor somewhat like that of witch hazel, may also have application as an insect repellant.

Who Makes "Spoo"?

One of our subscribers to *Soap & Sanitary Chemicals* is endeavoring to locate the makers of "Spoo" roach powder. The editor would appreciate receiving any information regarding this product.

New Floor Wax for Turco

Turco Products, Inc., Los Angeles, Calif., has announced a new liquid floor wax, speedy application of which by wiping or spraying is cited as a particular advantage in use.

"E" Pennant To Rheem Mfg.

The Army and Navy "E" pennant has been awarded to the Rheem Manufacturing Company's No. 2 Chicago plant, it has been announced by the Navy Department. This is the sixth Rheem plant to receive the "E" award and the second Rheem Chicago plant to get the pennant.

Twyman of Powell in N. Y.

E. B. Twyman, president of John Powell y Cia, Buenos Aires, Argentina, has returned to that city



E. B. TWYMAN

after two weeks spent in New York conferring with officers of the affiliated American company, John Powell & Co., New York. Mr. Twyman formerly associated with the export department of the New York firm has been head of the Argentine company since its founding five years ago. The South American firm manufactures pyrethrum products and also is engaged in the growing of pyrethrum on both a commercial and experimental scale on its farm near Mendoza, Argentine. Mr. Twyman, accompanied by Mrs. Twyman, traveled to and from South America via Pan-American Airlines. He reported a steady expansion in the consumption of insecticides throughout Latin America and was enthusiastic in his opinion of the outlook for the future of the industry there.

U. S. I. Names Martin

U. S. Industrial Chemicals, Inc., New York, has just announced the appointment of Milton F. Martin as assistant general sales manager. Mr. Martin has been with the sales department of U. S. I. since 1935, and for the past six years has been assistant to L. A. Keane, vice-president in charge of sales. Prior to that time, he was located in the Philadelphia, Detroit and Cleveland territories.

Can Mfrs. Launch Publicity

The Can Manufacturers Institute has announced a greatly expanded publicity and advertising program for 1944-1945 in which they will call attention to the special virtues of the tin can as the ideal container for insecticides, disinfectants and other household chemicals, as well as dozens of other civilian products. Each advertisement in the projected series of 926 will feature some representative product and will point out the advantages of the tin can as a container for that particular product. The campaign will carry a total of 379,000,000 messages to publications having a combined readership of over 44,000,000.

PEA Hears Buettner, Elliott

About fifty members of the Professional Exterminators Assn., New York, at their regular meeting Sept. 11, at the Hotel Commodore, heard William O. Buettner, secretary, and George R. Elliott, president, of the National Pest Control Association, discuss the post-war outlook for the pest control industry. Mr. Buettner complimented the Professional Exterminators Association on the highly cooperative spirit of the membership and the activities of the group's research committees.

Coastal Chemical Acquired

Niagara Sprayer & Chemical Co., Middleport, N. Y., recently took over Coastal Chemical Co., Harlingen, Tex., manufacturer and distributor of agricultural insecticides and fungicides. Niagara is a subsidiary of Food Machinery Corp., San Jose, Calif., and will operate and manage the Coastal plant and business, merging these operations with its own. Modernization and expansion of the present Coastal plant are now being undertaken by the new management.

Chicago Drug Assn. Meets

The Chicago Drug and Chemical Association resumed its monthly meetings Sept. 28 with a luncheon at the Drake Hotel. Donald McGibney, radio commentator, was guest speaker, his subject being "What's Ahead in World Affairs."



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INSECTI-SOL
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The longer your insecticide floats through the air, the longer the *killing power* is effective.

Choose INSECTI-SOL for YOUR insecticide to provide the longer killing power and for a perfect base that is crystal clear, odor-free—and WILL NOT STAIN CLOTHING, DRAPES, RUGS, etc., because it evaporates *entirely* when its job is done!

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N.P.C.A. To Meet Oct. 23 - 25



GEORGE R. ELLIOTT
N.P.C.A. President



WM. O. BUETTNER
N.P.C.A. Secretary

THE twelfth annual meeting of the National Pest Control Association is to be held at the Hotel Sherman, Chicago, Monday, Tuesday and Wednesday, October 23, 24 and 25. Although a major portion of the program will be concerned with immediate developments in the pest control industry, considerable attention will also be given to the problems of the pest control operator in the post V-E and post war periods. Once again, Morton S. Prescott is chairman of the national committee in charge of the program.

TWELFTH ANNUAL BUSINESS MEETING

National Pest Control Association, Inc.
Hotel Sherman, Chicago, Ill.
October 23, 24, 25, 1944

PROGRAM

Sunday Afternoon, October 22

- 1:00 P.M.—Registration—Bal Tabarin—6th floor.
- 2:00 P.M.—Annual Meeting of the Board of Directors—Grey Room—1st floor.
- 3:00 P.M.—Reception—West Room—1st floor.
- 7:00 P.M.—Early Birds' Dinner—Crystal Room—1st floor.

Monday Morning, October 23

- All sessions held in Bal Tabarin—6th floor.
- 9:00 A.M.—Meeting called to order. National Anthem.
- Invocation—Dr. Weldon M. Wilson.
- President's Message—George R. Elliott.

Of particular interest at this year's meeting is a one hour and a quarter session to be devoted to DDT, on which pest control operators have cooperated with the U. S. Department of Agriculture in conducting experiments and field tests. The following detailed program has been received from William O. Buettner, secretary, and George R. Elliott, president, of the National Pest Control Association, which, although it may be subjected to change before the meeting, gives fairly accurate outline of the projected list of speakers and discussion subjects.

- Treasurer's Report—Robert C. Yeager.
- Assistant Secretary's Report—Thomas H. Mahon.
- Secretary's Report—William O. Buettner.
- Memorial Service—H. K. Steckel.
- Committee Reports—Chairmen of all committees.
- Business Session.
- Appointment of Committees.
- "Looking Ahead in the PCO World"—Dr. Guy F. McLeod.
- "War Production Board Allocations"—John A. Rodda.
- Announcements and Recess.
- 12:15 P.M.—Luncheon—West Room—1st floor.
- "New Fields for the PCO"—Dr. George C. Decker.
- Monday Afternoon, October 23**
- 2:00 P.M.—Theme: "DDT"—William O. Buettner, presiding.
- "Visit to Bureau of Entomology Research Laboratories, Orlando, Florida"—William O. Buettner.

- "DDT in Relation to Pest Control Service"—Dr. W. E. Dove.
- "Field Tests by the PCO"—J. Edwin Sameth.
- Open Forum—Questions and Answers.

- 3:15 P.M.—Theme: "Fumigation"—Bartlett W. Eldredge, presiding.
- Committee Report—Bartlett W. Eldredge.

- "Observance of Good Domestic Fumigation Practices—Voluntary or Compulsory"—C. A. Vincent-Daviss.

- Discussion Panel—Chairman and Representatives of Fumigant Manufacturers.

Monday Evening, October 23

West Room—1st Floor

- 8:00 P.M.—"Termites and Powder Post Beetles"—Bert Lewis, presiding.

- "New Developments in Termite and Powder Post Beetle Research"—Ira P. Hatfield.

- "Fraud in Termite Control—A Menace to the Legitimate Termite Operator"—B. G. Berger.

- Open Forum—Questions and Answers.

- 10:30 P.M.—Famous Reunion—Bal Tabarin—6th floor.

Tuesday Morning, October 24

All sessions held in Bal Tabarin.

- 9:00 A.M.—Theme: "Rodent Control"—Martin T. Mayer, presiding.

- Committee Report and the Consideration of Standard Practices.

- "New Poisons"—Justus C. Ward.

- "Relation of Methods of Applying Baits to Their Effectiveness"—Galan C. Oderkirk.

- "U. S. Fish and Wildlife Service, The Public and the PCO"—Dorr D. Green.

- "Use of Curtain Walls in Rat Proofing"—Elmer A. F. Kuntz.

- "Natural Repellents in Rodent Control"—Charles V. Sparhawk.

- "Use of Methyl Bromide in Rodent Control"—J. Carl Dawson.

- Discussion Panel—Questions and Answers—Theodore Oser, in charge.

- 12:15 P.M.—Luncheon.

- "Cooperation Between Health Officials and the PCO's"—Dr. Herman N. Bundesen.

- 12:15 P.M.—Luncheon.

Tuesday Afternoon, October 24

- 2:00 P.M.—Theme: "Moths and Carpet Beetles"—J. Edwin Sameth, presiding.

- "Summary of Previous Years' Work"—J. Edwin Sameth.

- "Description of Tests Run This Year"—John K. Medoff.

- "Evaluation of Tests Run This Year"—Dr. Arthur L. Brody.

- "The Viewpoint of the Consumer Toward Moth and Carpet Beetle Control"—Walter S. McCloud.

- "Fumigation Angles"—P. Calvert Cissel.

- "Orthodichlorobenzene as an Insecticide"—Fred W. Fletcher.

- Open Forum—Questions and Answers.

- 4:00 P.M.—"Post War Plans of the PCO"—Walter S. McCloud, presiding.

- Tuesday Evening, October 24—Open**
(To allow time for any important group or committee meetings.)

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METASIL (SODIUM Metasilicate)

METAPLUS (Multipurpose alkali cleaner—will replace TSP. TO advantage in compounds)

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METAPLUS SOAP POWDER—a concentrated soap powder for cold or hot water.

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THE difference between ordinary and excellent results with insecticides is often in *method*—at least it has been found that *powered* spraying with the well-known and widely used

ADAM A. BREUER'S ELECTRIC INSECTICIDE SPRAYER

insures proper application of insecticides under the most difficult conditions. Its powerful motor ($\frac{1}{4}$ to 1 h.p.) shoots insecticides up to 20', penetrating cracks, crevices and hard-to-reach places. Tell us about your problems and requirements.

We do not sell insecticides. Our business is the manufacture of Sprayers. (Patented in U. S. A. and foreign countries.)

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J-O Phosphorous Paste is so compounded as to eliminate the hazard of fire and possesses advantageous qualities peculiar to itself. A properly made **Phosphorous Paste** such as **J-O** is absolutely safe to use. It cannot burn or set fire to other substances.

Phosphorous, however, remains basic in the compound because it is the most toxic chemical used in pest exterminating, being more toxic than arsenic, strychnine or thallium. Approximately one-tenth of a grain will kill a rat. Phosphorous is a slow poison, taking from 6 to 18 hours to kill. Due to its slow but positive action, the rat succumbs to this poison. He becomes very uncomfortable and, seeking fresh air and water, in most cases, leaves the premises and dies in the open.

For all species of roaches, this product is **UNEXCELLED**.

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254 W. 31st St., New York 1, N. Y.

Wednesday Morning, October 25

All sessions held in Bal Tabarin—6th floor.

9:00 A.M.—Theme: "Roach Control"

—J. Harvey Sturgeon, presiding
"Research Studies and Findings"—

Dr. George E. Gould.
"Application Technique"—Albert M.

Akers.
Open Forum—Questions and Answers.

10:30 A.M. — Business Session — George R. Elliott, presiding.

(a)—Unfinished Business.

(b)—New Business.

(c)—Report of Nomination Committee.

(d)—Election of Officers.

(e)—Discussion in regard to 13th Annual Meeting.

12:15 P.M. — No Scheduled Group Luncheon.

Wednesday Afternoon, October 25

2:00 P.M.—Theme: "Bedbugs and Their Control"—George L. Hockenyos, presiding.

"Biology and Identification of Bedbugs"—Dr. M. H. Doner.

"Chemical and Physical Properties of DDT as Related to Bedbug Control Work"—B. G. Berger.

"Proposed Standard Procedure for Bedbug Control"—G. L. Hockenyos.

3:30 P.M.—Subject to Be Announced. Representative of Bureau of Entomology & Plant Quarantine.

4:00 P.M.—"Hellza-Poppin" — William O. Buettner, presiding.

"Pulling the Loose Ends Together"—Dr. J. J. Davis.

Open Forum.

7:30 P.M.—Annual Dinner.
Bal Tabarin—6th floor.

Du Pont Changes Announced

The retirement of William Richter as general manager of the fabrics and finishes department and the appointment of J. Warren Kinsman as his successor, effective October 1, were announced last month by E. I. du Pont de Nemours & Co., Wilmington. Dr. William Kirk, manager of the Chambers Works at Deepwater, N. J., will succeed Mr. Kinsman, who until now has been assistant general manager of the company's organic chemicals department.

DCAT Membership Passes 500

Membership in the Drug, Chemical and Allied Trades Section of the New York Board of Trade has recently passed the 500 mark, according to Guy L. Marsters of Norwich Pharmacal Co., vice-chairman of the section and chairman of the membership committee. The section was first organized in 1890 under the leadership of Albert Plaut and its growth has been continuous since that time.

Health Week Oct. 6-16

National Health Aid Week is scheduled for observance throughout the United States, October 6-16, and druggists will feature special displays and distribute printed material offering wartime suggestions for maintaining the good health of the community. Tying in with Health Week the Owens-Illinois Glass Co., Toledo, Ohio, carried a full color advertisement in the September 9th issue of the *Saturday Evening Post* calling attention to the role of the glass container in promoting health.

Plan New Canco Plant

American Can Co., New York, is planning the construction of a new manufacturing plant on a 49-acre site in St. Paul, Minn., as soon after the war as labor and materials are available, a release from the company, issued late last month, states. The new plant will represent an investment of about \$6,500,000, according to present estimates, and will employ about 1,000 people, more than double the number engaged in the present St. Paul plant. Principal buildings called for in the plans for the new plant are an office building, a service building to house employees' locker rooms, first aid station, cafeteria, and a machine shop to service can manufacturing machinery; a factory building for can making equipment and machinery, a lithography building and a warehouse.

CD&CA Hears McGibeny

Donald McGibeny, correspondent, author, lecturer and world traveler, was scheduled to address the Chicago Drug and Chemical Association, September 28, luncheon at the Drake Hotel, on the subject: "What's Ahead in World Affairs." In November, 1941, Mr. McGibeny spoke at the CD&CA luncheon and said that the U. S. would be at war with Japan in ten days; Pearl Harbor bore him out.

Post-War Drug Conference Topic

Two forums, discussing the economic and merchandising trends in post-war drug manufacturing and distribution highlighted the "Road Ahead Conference" of the Federal Wholesale

Druggists' Association, held at the Hotel Waldorf-Astoria, September 14 and 15. This was the fourth in a series of wartime business meetings sponsored by the association to aid drug wholesalers, manufacturers and retailers in making adjustments to changing conditions in the national and industrial environment.

Florasynth Directors Meet

At a full meeting of the board of directors and stockholders of Florasynth Laboratories, Inc., New York, September 14 and 15, two additional vice-presidential posts were established and filled, the board of directors were re-elected, officers elected and plans for increasing manufacturing facilities in the middle west and in California were passed upon. David Lakritz, chief chemist, and Leonard Katz, were named to the newly created vice-presidential posts. Following the stockholders' meeting, the following officers were elected by the board of directors: Alexander E. Katz, president; William Lakritz, executive vice-president; David Lakritz, vice-president; Leonard Katz, vice-president; Joseph H. Fein, treasurer; Charles P. Kramer, secretary and Charlotte F. Senior, assistant secretary and assistant treasurer.

Lawyers Hear P. C. Magnus

Percy C. Magnus, president of Magnus, Mabey & Reynard, Inc., New York essential oil firm, and president of the Downtown Hospital, New York, addressed a gathering in front of the hospital recently on the occasion of the reopening of the hospital after a suspension of its services for the purpose of making repairs and improvements. Later in the day, at a luncheon at the Lawyer's Club, Mr. Magnus expressed his personal views on the subject of Social Security.

Nathan Sherman Dies

Nathan Sherman of Regent Exterminating Co., New York, died recently at the age of 44, following a heart attack. He had been connected with the pest control industry for approximately 13 years. Mr. Sherman is survived by his wife and a daughter.

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Announcement . . .

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N.A.I.D.M. Annual Meeting in New York, December 4-5

NATIONAL Association of Insecticide & Disinfectant Manufacturers will hold its 31st annual meeting at the Hotel Roosevelt, New York, on December 4 and 5, according to an announcement by H. W. Hamilton of the Koppers Company, secretary of the association. Business and scientific sessions will extend for two days with group luncheons each day. The regular sessions will be preceded by a meeting of the Board of Governors and scientific committees on December 3. Melvin Fuld of Fuld Brothers, Baltimore, chairman of the program committee, has been forced to withdraw because of illness and John Powell of John Powell & Co., New York, who arranged the successful war conference program of the Association last June, has taken Mr. Fuld's place, according to Henry A. Nelson of the Chemical Supply Co., Cleveland, president of N.A.I.D.M.

In addition to reports from a number of scientific committees, the main portion of the program, Mr. Powell states, will be given over to papers and discussions on post-war planning and problems, particularly the disposal of surplus war materials in the field of insecticides, disinfectants, and sanitation chemical products. A section of the program will be given over to "The Washington Picture" which will include several well-known speakers from WPB. A discussion of proposed changes in the Insecticide Act of 1910 will also be held and will probably include as a speaker a leading government authority on the enforcement of this law. A further exposition on DDT entitled "DDT Up to Date" is to be included in the program. Full details of the program will be released about November first. The meeting, in view of war conditions and the general importance of the subjects to be discussed, will be open to all firms in the insecticide, disinfectant and sanitary



HENRY NELSON
N.A.I.D.M. President.

products industry, regular registration only being required, according to Secretary Hamilton.

Navy Honors Sonneborn Unit

The employees of Franklin Creek Refining Co., Franklin, Pa., subsidiary of L. Sonneborn Sons, Inc., New York, were congratulated by the Navy in a ceremony at the plant recently for staying on the job and producing without interruption the oil needed in the war. The assembled workers answered a plea for continued top production made by Navy spokesman, Lt. (j.g.) E. R. Leighton of the Spars with a pledge to continue production uninterruptedly until the end of the war. The meeting was opened with a brief memorial ceremony for Sgt. Glenn A. Campbell, turret gunner in a B-26 Maudrauder bomber, whose plane was shot down in a raid over Portuguese Timor, and who prior to entering the service was employed at the refinery.

Offer Aliphatic Compounds

New aliphatic compounds developed by the chemical division of Connecticut Hard Rubber Co., New

Haven, as a result of their research work in the synthetic rubber field, are now being offered in commercial quantities. For use as starting material for dispersing agents, insecticides, etc., there are the olefins, with a double bond at the first carbon, and the high purity aliphatic mercaptans. In addition, the company is offering a chart that lists and describes these aliphatic chemicals. The chart contains considerable physical data for these derivatives not previously available in the literature.

NAIDM Sprayer Committee

A Special Sprayer Committee to draw up specifications for both hand-operated and small power-driven sprayers has just been named by the National Association of Insecticide and Disinfectant Manufacturers. The committee will welcome suggestions as to the type of sprayers manufacturers believe best suited for use with all types of insecticide sprays. The following members have been named on the sprayer group: F. C. Nelson, chairman, Stanco, Inc., Elizabeth, N. J.; George A. Arehart, Universal Metal Products Co., Lowe, Mich.; C. M. Bremmer, Brueuer Electrical Manufacturing Co., Chicago; William Fromm, Dumore Co., Racine, Wis.; W. A. Simanton, Gulf Research & Development Co., Pittsburgh; Martin Vogel, Standard Container Co., Montclair, N. J.; G. A. Wilkin, Auto Compressor Co., Wilmington, O.; Roger Wilson, Continental Can Co., research division, Chicago; Dr. Frank Hazard, Wilmington College, Wilmington, O.; and Dr. E. R. McGovran, Bureau of Entomology & Plant Quarantine, Beltsville, Md.

Change Hercules Sales Setup

The industrial chemical division of the Paper Makers Chemical Department of Hercules Powder Co., Wilmington, is discontinuing the resale of a number of industrial chemicals made by other manufacturers, it was announced early this month. Reason for the change is to concentrate the department's technical service and sales forces upon products of Hercules' own manufacture.

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Change Insecticide Controls

Revocation of Order M-179, pyrethrum, and M-133, rotenone, was announced last month by the WPB. Pyrethrum has been placed under Chemicals General Allocation Order M-300 as Schedule 48. Rotenone is placed under Chemicals General Allocation Order M-300, as schedule 49.

Cole New Monsanto Director

Robert R. Cole, vice-president of Monsanto Chemical Co., St. Louis, and general manager of the phosphate division was recently elected a member of the board of directors. He fills the place on the board left vacant by the recent death of John C. Brooks, vice-president and general manager of the Company's plastics division.

Perkin Medal to E. K. Bolton

Dr. Elmer K. Bolton, chemical director, of E. I. du Pont de Nemours & Co., Wilmington, has been selected as the recipient of the 1944 Perkin Medal of the American Section of the Society of Chemical Industry in recog-

nition of his outstanding accomplishments in the field of industrial research, the Society announced early this month. Presentation of the medal will be made at a dinner at the Commodore Hotel, New York, Jan. 5, 1945.

Continental Buys Mono Service

Continental Can Co., New York, early this month, announced the purchase of all the assets and business of Mono Service Co., Newark, N. J., manufacturers of paper food containers, etc. for a sum estimated at about \$3,000,000. The newly acquired company will be operated as the Mono Service Division of Continental Can Co. The purchase rounds out Continental's line of liquid-tight paper containers.

Insecticide

An insecticidal composition contains as active ingredient di(2-ethyl hexyl)fumarate. Wm. Moore and R. O. Roblin, to Am. Cyanamid Co. Canadian Patent No. 421,493.

New Barrett Distillation Plant

The Barrett Division, Allied Chemical & Dye Corp., New York, will shortly begin construction of a modern, tar distillation plant at Iron-ton, O., according to an announcement just released. The new Barrett plant, covering a large area, will be immediately adjacent to the Semet-Solvay plant and will be served by the Norfolk & Western railroad, with water facilities for handling incoming crudes and the shipment of finished products.

Chicago Soap Assn. Ends Season

The Golf Auxiliary of the Chicago Perfumery, Soap and Extract Association held its final tournament of the season at Westward Ho Golf Club, September 22nd. Prizes were awarded to all in attendance and as a special feature motion pictures taken at various tournaments of the association for the past several years were shown. Martin Vance of Givaudan-Delawanna was in general charge of arrangements.

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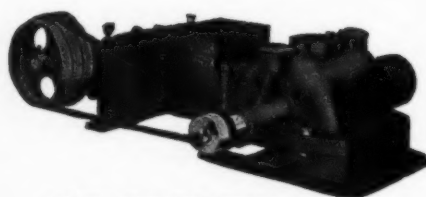
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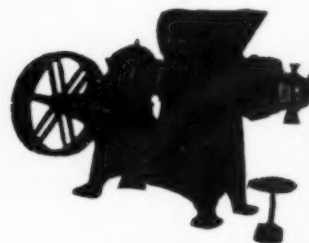
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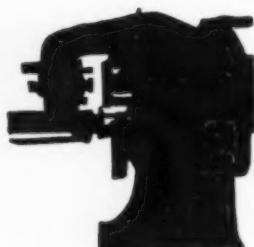
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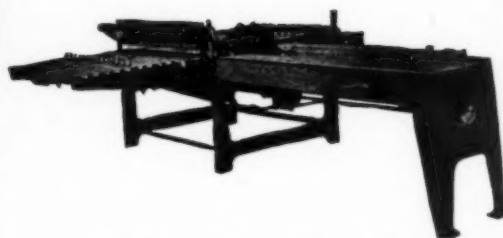
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Experienced Salesman — To sell sanitary supplies and travel Texas, calling on institutions, schools, hospitals, Army camps, theatres, office buildings and industries. Superior Products Co., 135 Decatur St., New Orleans, La.

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Miscellaneous

Wanted — 1 Cylindrical Steel Tank approximately 700 gallons or more capacity. One Steel Steam Jacketted Crutcher, approximately 5,000 lbs. capacity. One Chilling Roll and equipment for manufacturer of soap powder, capacity 2,500 to 5,000 lbs. per hour. Also interested in Spray Dry equipment. Address Box No. 782, care of *Soap & Sanitary Chemicals*.

For Sale: Eureka Soap business. Several kettles, crutcher, frames, grease, soap, small factory. Box No. 775, care of *Soap & Sanitary Chemicals*.

Distributor — West Coast firm wishes to represent manufacturer of a quality line of floor maintenance products on an exclusive basis in the coast territory to the jobbing trade. Ten years background in janitor supply trade on coast. Salesmen for detailing for jobbers. Will be Chicago and New York, Oct. 9 to 18, for conference. Box No. 787 care of *Soap & Sanitary Chemicals*.

Steel Tank For Sale. 7/16" steel plate welded, dish bottom & top, 10 feet in diameter by 12 feet high, with 18" manhole & 6" bottom outlet. Capable of holding 29" vacuum. Condition as good as new. Located 20 miles from New York. Also 1 Houchin double jacket vertical soap crutcher, 1500 lbs. capacity. Address, Carl Schleif, Box 552, Pawtucket, R. I.

Lines Wanted: 12 years' experience in the janitor and cleaning supply field; contacting the industrial and institutional trade — wholesale and retail accounts. Fidelity Cleaning Supply Co., 1641 No. 12th Street, Philadelphia 22, Pa.

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Miscellaneous

For Sale: Reasonable. Glycerine evaporator — practically new. Capacity 500 lbs. per hour. Lightfoot Schultz Co., 1412 Park Ave., Hoboken, New Jersey.

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 783, care *Soap & Sanitary Chemicals*.

For Sale: 1—Twin Screw Plodder 6"; 2—5 Roll water cooled inclined steel roller mills, 16" dia. x 40" face. Houchin-Aiken Foot Presses; Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40; Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corporation, 426 Broome Street, New York City, 13.

Wanted: Back issues of SOAP — The following back issues of *Soap & Sanitary Chemicals* are needed for bound volumes: Vol. XI, Nos. 1 and 2, January and February, 1935; Vol. XIV, No. 3, March, 1938. Please communicate with the agricultural library of the College of Agriculture, University of Wisconsin, Madison 6, if you have these issues and are willing to supply them.

Zinc Phosphide for Rat Control

Because of unavailability or difficulty in getting the usual rat poisons, such as strychnine, red squill and thallium sulfate, investigators at Cornell University's agricultural experiment station have conducted a search for substitute poisons. Zinc phosphide, they report in the annual review of station activities for 1943, "has shown excellent possibilities in this connection and has been used with marked success in various regions of New York state." For use as a rabbit repellent for orchard trees the Ithaca scientists developed a resin alcohol formula, and additional formulae are being tested in cooperation with the federal Fish and Wild Life Service.

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"How is we all gonner vote fer dat man? Ah doan see no-buddy on dis yere paper by de name ob Indispensable!"

Indispensable?

IN public life, indispensability may be so much political chatter and the indispensable man a myth. But in business, indispensability is a horse of another color. If experience is a criterion, some form of advertising is indispensable. If you have something to sell, advertise it. This has been axiomatic since the stone age. Right advertising in the right places has brought success. Its lack has likewise often been associated with failure. In business, advertising is indispensable

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254 WEST 31st STREET NEW YORK 1

Member Audit Bureau of Circulations

Tale Ends

TO the defense of the radio "soap opera" and paid newspaper advertising came the *New York Times* last month. Citing the corrupt press of France for some years preceding the fall of that once proud nation and by contrast the virile press of America supported by much paid advertising, *The Times* said: "Newspapers can dance to a much worse tune than a soap aria."

* * *

And nobody makes anybody tune in on a "soap opera" unless they want to do so. Just the same, do they have to make Mrs. Shrimpnoggin, the housewife, so goshdarn enthusiastic about washing the old man's work shirt just because she uses Foodles' Fluffy Soap Flakes?

* * *

Special red-hot message direct from Pete Niles, chairman of the BIMS of Boston, just received . . . final BIMS golf party and outing of 1944 at the Charles River Country Club on October 18th!

* * *

A large gob of mottled soap is wanted for shipment on lend-lease apparently to Porto Rico or some other West Indian spot. Imagine mottled soap! Why? Because the natives like it better than brown laundry soap . . . just as we like lots of things we can't get on account of the war . . . and who doesn't? Somebody should tell Washington that this is nuisance business right now and that the firms who can supply could be counted on the thumbs of one hand. Blue mottled soap at a time like this. Imagine!

* * *

First case in the soap industry of a soaper being hauled up on criminal charge for exceeding his fat and oil quota under WPB regulations . . . recent indictment says that some two million pounds too much were used . . . we wonder how far they are going to go with this thing.

* * *

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